

GIFT
AUG 7 1919

THE Pacific Pharmacist

J C Rowell, Librarian,
Univ. of California,
Berkeley, Cal.

An Independent Journal Devoted to Progressive Pharmacy

Vol. 13

JULY, 1919

No. 3

Single Copies, Ten Cents.

1294 Ninth Avenue, San Francisco, Cal.

One Dollar per Year.

"Nothing Acts Like Analax"



Mothers buy it on Sight

Two sizes, \$1.20 and \$2.40 dozen

Special—"One-fourth Dozen Free with a dozen."

RETAIL 15c AND 30c

RECOMMENDED BY PHYSICIANS

The prettiest package sold

McK&R

McKESSON & ROBBINS
INCORPORATED
NEW YORK

TANGLEFOOT

The Non-Poisonous Fly Destroyer

The United States Public Health Service advises: "Arsenical Fly-Destroying devices must be rated as extremely dangerous, and should never be used."

N. Y. Q. PRODUCTS

Acetanilide U. S. P.

Bismuth Subnitrate and
other Bismuth Salts

Codeine and its Salts

Diacetyl-Morphine

Iodoform

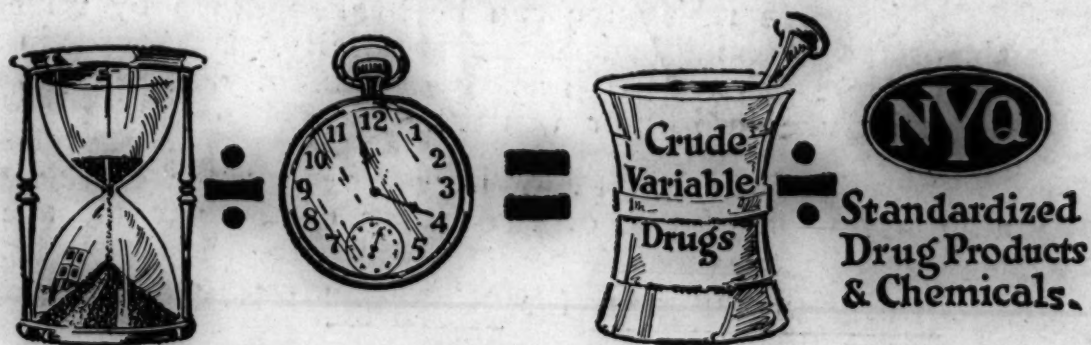
Morphine and its Salts

Potassium Iodide

Quinine and its Salts

Strychnine and its Salts

Thymol Iodide



as the Hour Glass is to the Watch

so are the old crude, imperfectly prepared variable drugs and chemicals to the modern, scientifically manufactured, standardized products. Such as N. Y. Q. for instance.

The N. Y. Q. trademark means something more than who has made the products. It guarantees Purity, Quality, Reliability. It protects the buyer and it safeguards the user.

N. Y. Q. products do not have to be taken for granted. The trademark settles any question, prevents any doubt, inspires every confidence.

Specify N. Y. Q. It deserves it.

The New York Quinine and Chemical Works, Inc.

135 William Street, New York

One of San Francisco's Best Known Physicians Said:

"I have used between 700 and 800 doses of The Cutter Laboratory's Mixed-Vaccine-Respiratory-Infections as a prophylactic against Influenza and in not one instance has there been a failure completely to protect the individuals so immunized."

This statement was made at the height of San Francisco's epidemic of Spanish Influenza, and is convincing enough to satisfy even the most conservative as to the value of Mixed Vaccine prophylaxis in this class of infections.

Theoretically, a Mixed Vaccine which protects against Influenza and (even temporarily) against Pneumonia and the other complications following Influenza, is better than one which protects only against Influenza. Practically, this seems to have been proved by the experience of many physicians in widely separated areas, and our faith in Mixed Vaccine Respiratory Infections,—“M. V. R. I.”—as a prophylactic has been more than justified by the splendid protective results following its use.

Just how permanent is this immunity has yet to be established, but if it is for no longer than two or three months it is still a remarkable stride in preventive therapy.

As a preventive of recurring “colds” which make life miserable for so many every winter, it has been found by many physicians that in most instances three prophylactic doses administered three or four days apart in the fall, followed by two more doses at three or four day intervals, three months later, are sufficient to carry such individuals through the trying winter months in good health.

Of course resistance can be broken down by unusual stress of exposure, lack of sleep, fatigue and bad habits generally. But even in such cases there is usually a remarkable showing of increased immunity as compared with the almost entire lack of resistance in former winters.

Should there be at any time a recurrence of the old disposition to “catch cold,” administration of one or two doses of the vaccine are usually sufficient to dispel it.

Ask your Druggist for “Cutter’s” Mixed Vaccine Respiratory Infections.

The Cutter Laboratory

(Operating under U. S. Gov. License)

Berkeley

California

EASTERN BRANCH:

THE CUTTER LABORATORY (of Illinois) 180 N. Dearborn Street, Chicago

WHEN THE BOYS COME HOME**A PLACE MUST BE READY FOR EVERY RETURNING
SOLDIER AND SAILOR PHARMACIST.**

About ten thousand Soldier and Sailor Pharmacists will return to civil life. They have given up business or good position to answer the call of their country.

What are the "stay at homes" going to do for them? A period of reconstruction confronts American Pharmacy as it does every other endeavor. The reconstructive period will be quite as serious for those who are at home as it will for those who soon will commence to return. Every American Druggist is face to face with the highest duty to returning pharmacists, to himself and to American Pharmacy.

The American Pharmaceutical Association has appointed a Committee to handle the difficult problems about to arise along common sense and broad lines, so that true help may be rendered and conditions may not become chaotic. The Committee has an appreciation of its enormous task. It means to be helpful in many directions. Aside from finding places for every returning Pharmacist, it plans to secure for them registration and educational facilities of very great benefit.

**WE NEED THE HELP OF EVERY DRUGGIST LOYAL TO COUNTRY
AND PHARMACY.****THE ADVISORY COMMITTEE OF THE AMERICAN PHARMACEUTICAL
ASSOCIATION FOR SOLDIER AND SAILOR PHARMACISTS.**

C. O. BIGELOW, CHAS. E. CASPARI,
H. C. CHRISTENSEN, EDWARD SPEASE.
FRANK H. FREERICKS, Chairman.

Every American Pharmacist is urgently requested to immediately fill out and detach the following Questionnaire and mail it to Frank H. Freericks, Chairman, Mercantile Library Bldg., Cincinnati, Ohio:

STATE..... CITY..... STREET.....

1st: Give name and last-known address of employee, if any, now in the service.

.....

2nd. Was he a registered Pharmacist or registered Assistant?

3rd: Is he a graduate in Pharmacy?

Was he attending College?

4th: Is his position with you open for him on his return?

5th: If you are the successor of one who is now in the service give his name and

last known address.

6th: If a neighboring druggist has sold out and closed store to go into the service,

give his name and last known address.....

7th: Will you have a position for a returning pharmacist when the time comes?

If so, at about what salary?

8th: Do you believe it possible that you would have employment for a partly dis-

abled Soldier or Sailor Pharmacist

9th: Would you consider selling your store to a returning Pharmacist? If so, what

do you ask for it?

How much cash required? What is business annually?

10th: Would you entertain a partnership offer from a returning Pharmacist? If

so, how much money required?

What is annual volume of your business?

(Signed)

The Committee will be under great expense to carry on its work. It will gladly accept contributions. If so disposed, make your check to H. M. Whelpley, Treasurer, and enclose with Questionnaire.

All information of a confidential nature will not be published and will be used in individual cases only.



A SELF SELLER



A CERTAIN REPEATER

Ant and Roach Powder

A MOST HIGHLY EFFICIENT EXTERMINATOR

Formula used by the U. S. Government

Active Ingredients in Higher Percentage than any Similar Preparations.

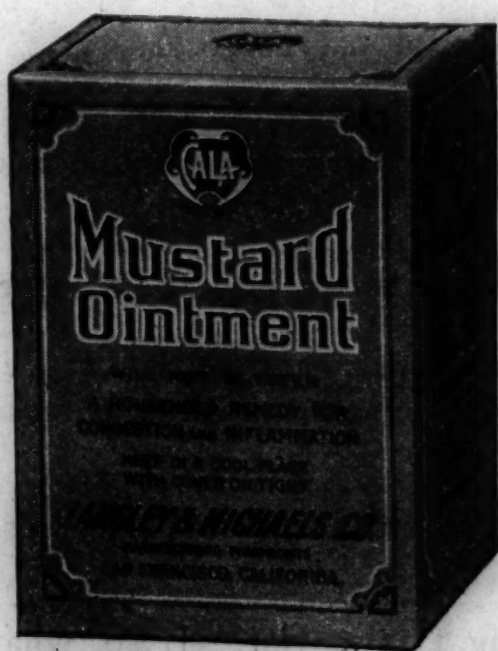
Usual Cala Attractive Package and Liberal Profit

—TWO SIZES—

Small size \$1.50 dozen

Large size \$3.00 dozen

6 dozen lots 5% discount—12 dozen lots 10% discount.



Mustard Ointment

An Elegant and Highly Efficient
Household Remedy

Salable

Profitable

Small size \$1.75 dozen; Large size \$3.00 dozen.

6 dozen lots 5% discount—12 dozen lots 10% discount.

LANGLEY & MICHAELS CO.

SAN FRANCISCO

WHEN MAKING TESTS

USE ONLY

GRASSELLI CHEMICAL CO'S

C. P. Acids

Laboratory Glassware

Balances

Chemical Apparatus

JUSTINIAN CAIRE COMPANY

573 Market St., San Francisco, Cal.

Chemists' and Assayers' Apparatus
and Reagents

**AMERICAN MEDICO-PHARMACEU-
TICAL LEAGUE.**

Twenty-second annual convention at the Hotel Astor, Times Square, New York City, on Monday evening, May 19th, 1919.

First MEDICAL Association in the Americas to co-operate with pharmacists and dentists. Membership dues \$2 per annum. All reputable pharmacists, physicians and dentists are eligible. Eugenie R. Eliscu, M. D., treasurer, New York City.

Do not hesitate, but send \$1 initiation fee, NOW, to Dr. S. Brothers, corresponding secretary, 96 New Jersey Avenue, Brooklyn, N. Y.

Certificate of Membership free to each "paid-up" member.

SAFETY FIRST

Use

TANGLEFOOT

*—the non-poisonous
fly destroyer*



Druggists' Glass Labels,
Shelf Bottles and Drawer
Pulls of every description.
First-class workmanship.

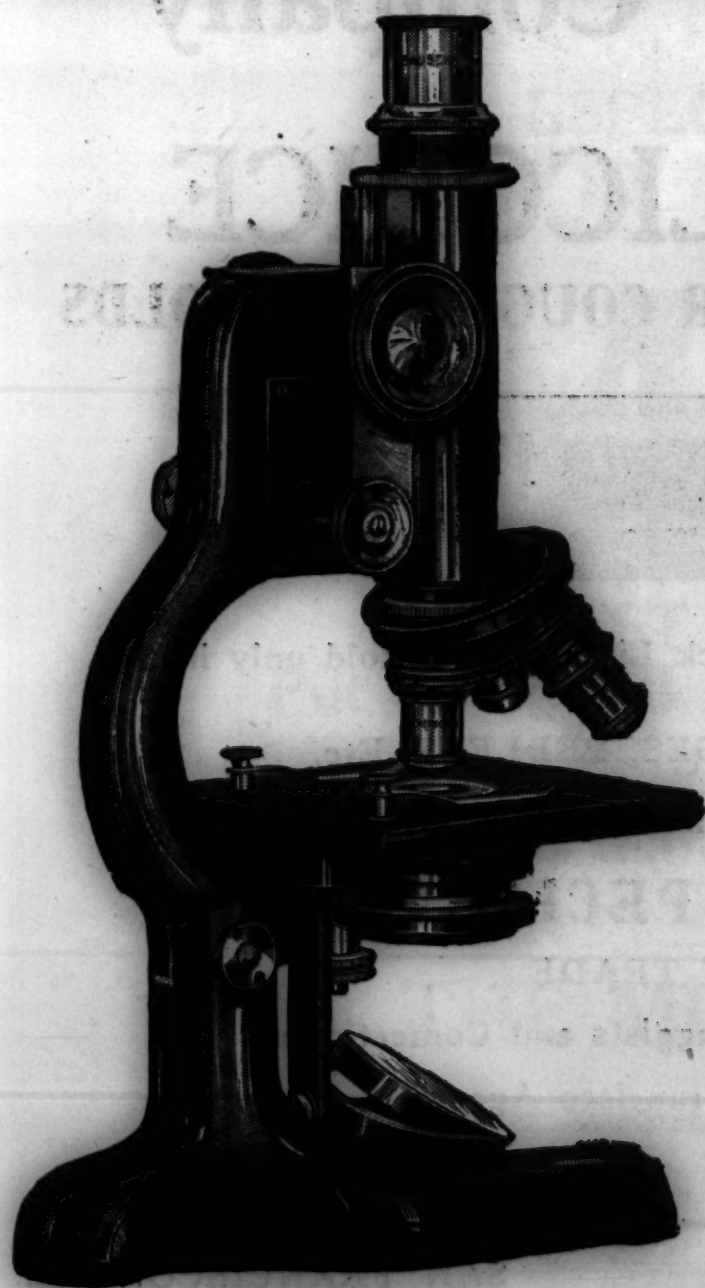
Order from your jobber.

Manufactured by

FAY & SCHUELER

St. Louis, Mo.

New Microscope FFS8



FFS8 Microscope

¶ A new Microscope with side fine adjustment of the lever type. The principle is that of our original lever type of fine adjustment which has met the test of time and been very generally adopted. The construction is simple and durable, giving a delicate movement for work with the highest powers, yet rapid enough for the lower powers.

¶ The stand is of the same form as our FF and embodies all the good features which have commended that model to so many purchasers.

*Descriptive circular will be
sent on request*

BAUSCH & LOMB OPTICAL CO.

of California

154 SUTTER STREET, SAN FRANCISCO, CAL.

TABLE OF CONTENTS.

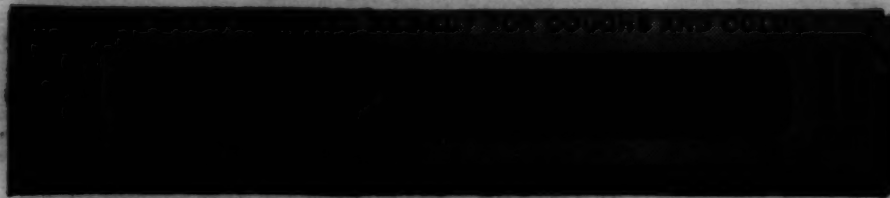
Editorials	61 to 64
Original Articles:	
The Medicine and Pharmacy of Ancient India. By S. N. Gupta, Phar. B.....	64 to 70
Sleeping Sickness	71 to 72
The Manufacture of Chloramine-T. By J. K. H. Inglis.....	72 to 76
Internal Revenue Information.....	76 to 77
Amendments to California Poison Law.....	77 to 78
Clerks' Code of Ethics.....	78
Alameda County Pharmaceutical Association.....	79 to 80
Market Letter. By F. W. Dessel.....	80
Personal and Drug Trade News.....	81 to 85
The Blessing of Death.....	86
Missouri State Board Questions.....	86
Soda Fountain Formulas.....	87

National Licorice Company

Sole Manufacturer of

Y & S STICK LICORICE

THE OLD-FASHIONED REMEDY FOR COUGHS AND COLDS



The Celebrated SCUDDER and M & R BRANDS Stick Licorice, also sold only in the 10c Cartons as above

M. & R. WAFERS (in 7c bags), LOZENGES, PELLETS, Etc.

WE ALSO MANUFACTURE A LARGE AND VARIED LINE OF DELICIOUS

FLEXIBLE LICORICE SPECIALTIES

FOR THE CONFECTIONERY TRADE

Our Goods are for Sale by All Wholesale Druggists and Confectioners

Coast Trade Supplied by Our San Francisco Agents

W. M. DUVAL & CO.

SANTA MARINA BUILDING

SAN FRANCISCO, CAL.

Ask Your Jobber

— for —

SNOWFLAKE

COCOANUT

OIL

MADE FOR THE DRUG TRADE

— by —

EL DORADO OIL WORKS

433 California Street

**Capital Stock
Fire Insurance
For Druggists—
At a Saving in Cost.**

The druggist who carries A. D. F. I. Co. fire insurance gets **Capital Stock Insurance**, guaranteed by surplus and reserves for policyholders of more than half a million dollars. And we save him 25% from Board Rates.

During 1918 we saved our policyholders \$84,412.00; also \$25,258.29 because we have not made the "War Emergency Sur-Charge."

AGENTS IN 37 STATES

including California, Oregon and Washington.

Ask for our rate on your store.

**The American Druggists'
Fire Insurance Co.**



1004-1005-1006 Mercantile
Library Bldg.,
CINCINNATI, O.

**ESPECIALLY ADAPTED
FOR FOUNTAIN USE**

MILKOSE
BRAND
MALTED MILK

THE BEST PRODUCT OF ITS KIND

Put up in bulk for Soda Fountain Dispensing

Sold in 10 & 25 lb. Packages

Costs you less than inferior brands of varying quality

Guaranteed to always conform to U. S. Standard

THE MILKOSE COMPANY

Distributors

Great Northern Building

CHICAGO, ILLINOIS

Index to Advertisers

	Page.		Page.
Albertye, The Co.....	10	Mallinckrodt Chemical Works.....	10
American Druggists' Fire Insurance Co.....	5	Malted Milk.....	5
American Medico-Pharmaceutical League.....	3	McKesson & Robbins.....	Front cover page
Bayer, The Co.....	83	McVey, John Jos.....	10
Barry, The James H. Co., Printers.....	13	Microscopes	3
Bausch & Lomb Optical Co.....	3	Mulford Co., H. K.....	Third cover page
Biologics.....	Second and third cover pages	National Licorice Co.....	4
Bristol Myers Co.....	10	New England Confectionery Co.....	9
Caire, Justinian Co.....	3	New York Quinine & Chemical Works, The.....	Front cover page
California College of Pharmacy.....	7	Parke, Davis & Co.....	Fourth cover page
Candies	9	Pharmacy	10, 7
Classified Advertisements	12	Powers-Weightman-Rosengarten Co.....	85
Cocoaanut Oil.....	5	Postcards	10
Coffin Redington Co.....	8	Printing	13
College of Pharmacy.....	7	Ross-Gould	12
Crown Headache Powders.....	9	Sal Hepatica.....	10
Cutter Laboratory.....	Second cover page	School of Pharmacy.....	7
El Dorado Oil Works.....	5	Scott & Gilbert Co., Inc.....	6
Fay & Schueler.....	3	Syrups	9 and 10
Fellows' Syrup	10	Tanglefoot Fly Paper.....	Front cover page and 3
Fly Paper.....	Front cover page and 9	University of California.....	7
Headache Powders.....	9	Walrus Manufacturing Co.....	14
Horlick's Malted Milk.....	5	Walters Surgical Co.....	12
Justinian Caire Co.....	3	Wassermann Laboratories.....	79
Langley & Michaels Co.....	2	Weck, F. A. & Co.....	11, 12
Laxative Medicated Grapes.....	9	Widemann Goat Milk Co.....	80

SCOTT & GILBERT COMPANY

Manufacturers of CESPI Specialties

San Francisco, Cal.

Syrup of Figs	Sarsaparilla
Castor-Lax	Eye Water
Cameo Cream	Chill Tonic
Hair Dye	Castoria
Headache Powders	Ointments
Compound Licorice Powder	
Citrate Magnesia	
Poison Oak Remedies	
Syrup White Pine Co. and Tar	
Almond Cream, etc., etc.	

**Inquire about our Free Goods
Proposition**

A woman owned a fine greenhouse, but she was rather ignorant of her flowers by their botanical terms. One day she was showing the greenhouse to a woman friend who did know the flowers by their Latin names, and she thought she would have some fun.

"Have you any 'Septennis Psoriasis'?" asked the friend.

"No," answered the woman, not to be stumped; "I had it and gave it to our minister, and it came out beautifully in the spring."

But, after her friend left, she went to a Latin dictionary to see what "Septennis Psoriasis" meant. She found out! It meant the seven-year itch!—Ladies' Home Journal. ;

Patron—You're conserving food, I judge, by the size of our portions.

Waiter—Yes, sir.

Patron—Well, here's a dollar, half the amount of the check—I'm conserving my own resources.—Life.

Department of Pharmacy

University of California

Has conducted sessions continuously since
the year Eighteen Hundred and Seventy-Two

**THIS COLLEGE PREPARES PHARMACISTS
FOR THEIR LIFE WORK**

**There are Five Equipped Laboratories
and Two Spacious Lecture Halls**

Pharmaceutical apprentices and others intending to
pursue pharmacy as a vocation may obtain particulars
regarding prerequisite, courses of study, expenses, etc.,
by writing to the Dean

Next term opens September 1st. Send your credentials
to the Dean at once to avoid delay in matriculation.

Send for New Announcement

FRANK T. GREEN
Second and Parnassus Avenues
San Francisco, Cal.

coREco

Dry Shampoo

No Water

No Soap

No Drying the Hair

Easy to Use

Harmless

Leaves the Hair Soft

*It is a preparation that your trade will like.
Ask our salesman about it.*

CORECO CO.

NEW YORK

SAN FRANCISCO

coREco

Mosquito Cake

A simple, effective Mosquito Chaser.

Has only a slight, pleasant odor.

Will not smart the skin or soil the clothes.

Is not sticky or mussy to use.

Mosquitoes Can't Stand It

An excellent seller during the summer months.

If you are not acquainted with it, ask our salesman.

CORECO CO.

NEW YORK

SAN FRANCISCO



Laxative Medicated Grapes are clean, ripe, sound Muscatel Grapes, especially dried, seeded and medicated with active ingredients for the treatment of Constipation and disorders of the stomach, liver and bowels.

CROWN HEADACHE POWDER

Makes
Friends

Makes
Money



A Good
Remedy

A Good
Seller

Have been in use for 18 years, and proven satisfactory to the consumer and profitable to seller. Half dozen free goods with an order for three dozen, either size. Ask your jobber.

Guaranteed by the F. A. Weck Co. under the Food and Drugs Act of June 30, 1906. Serial No. 3601.

THE F. A. WECK CO.

501 THIRD AVENUE, Richmond District
SAN FRANCISCO, CAL.

New England Confectionery Co.

253 Summer Street

BOSTON

MASS.

U. S. A.

Manufacturers of High Grade Chocolates and Confectionery



Always sign of best in confections

"The people in the flat opposite bought their piano at auction."

"I suspected as much; it's 'going, going, going' all the time."—Boston Transcript.

"Look here," said the wife, reading a newspaper. "I see from statistics given here that every third baby born in the world is a Chinese."

"Yes?" said the husband. "Then thank the Lord that this is only our first."—Exchange.

Staff Colonel—Your reports should be written in such manner that even the most ignorant may understand them.

Sergeant—Well, sir, what part is it that you don't understand?—Christian Register.

"Don't you find geography difficult?"

"We don't study geography now,"

replied the boy. "Teacher says we might as well hold off for a while and wait for the map to settle."—Washington Star.

"Our birthstones are supposed to control our destinies. What is your birthstone?"

"Judging from my experiences, I should say it was a brickbat."—Baltimore American.

Timid Suitor—I suppose when you recall what a handsome man your first husband was you wouldn't consider me for a minute?

Pretty Widow—Oh, yes, I would—but I wouldn't consider you for a second.—Boston Transcript.

"Is this cellar perfectly dry?" inquired the prospective purchaser.

"Well," responded the talented agent, with a knowing wink, "it always had been until the prohibition law went into effect."—Exchange.

BISMUTH PREPARATIONS

are now seasonable and the careful, discriminating Pharmacist should see to it that his dispensing department is well stocked with our excellent Bismuth products.

M. C. W. BISMUTH SUBNITRATE U. S. P.,
BISMUTH SUBCARBONATE U. S. P., SUB-
CARBONATE for X-Ray, BISMUTH SUBGAL-
LATE U. S. P., BISMUTH SUBSALICYLATE
U. S. P.

Mallinckrodt Chemical Works
ST. LOUIS NEW YORK

LUDY

PHARMACY STUDENTS PURCHASE THE BEST

Answers to Questions Prescribed by
PHARMACEUTICAL STATE BOARDS
Second Edition Revised According to
NINTH EDITION OF THE
PHARMACOPOEIA

8 vo. 373 pp. Price \$2.50 net.

JOHN JOS. McVEY, Publisher, Philadelphia

Have Your Local Views Made Into

POST CARDS

Finest American made

Platino, Sepia and Hand Colored

THE ALBERTYPE CO., Brooklyn, N. Y.

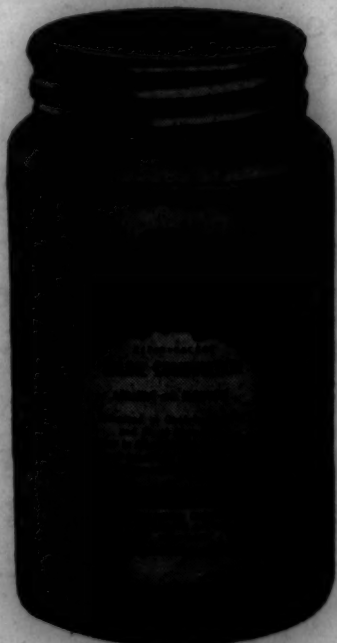
Sal Hepatica

SMALL SIZE
.....\$2.40 Per Doz.
MEDIUM SIZE
..... 4.80 Per Doz.
LARGE SIZE
..... 9.60 Per Doz.

Quantity discounts:
6 doz. small (or equiv-
alent), 5%
24 doz. small (or equiv-
alent), 8%

ALL JOBBERS

Bristol-Myers Co.
NEW YORK



Fellows' Syrup

IMPORTANT NOTICE

This is to remind you that most sales of **FELLOWS' SYRUP OF HYPOPHOSPHITES** are made on Physicians' prescriptions, in which case the profit to the retail druggist is nearly 100%.

This means that the Physician sends you a desirable customer; and the least you can do is to treat him fairly, and supply the preparation prescribed, Fellows' Syrup.

Members of the retail drug trade are warned against buying or selling colorable imitations of the well-known yellow-wrapped package of Fellows' Syrup. The highest Courts have decided that such an act is an infringement of the Trade-Mark Law, and makes the offender liable to a suit for damages.

THE
Pacific Pharmacist

An Independent Journal Devoted to Progressive Pharmacy

Vol. XIII.

JULY, 1919.

No. 3.

Published on the Fifteenth Day of the Current Month on behalf
of the Pharmacists and in the interests of the Drug Clerks.

H. B. CAREY, Manager

Editorial Staff:

J. H. DAWSON

H. B. CAREY

F. W. DESSEL

Address all communications and make all checks and money orders payable to The Pacific Pharmacist, 1294 Ninth Ave., San Francisco, California.
Communications on questions pertaining to Pharmacy and the Drug Business are solicited. The name of the writer should accompany every article, not necessarily for publication, but as a guarantee of good faith.

EDITORIAL

REGISTRATION OF DRUG ADDICTS.

New York now has a law which requires all drug addicts to register and obtain a dosage card before they can have any drug prescribed for them. The information is so complete that it makes it impossible to falsify the card.

If it is necessary or desirable to treat these patients outside of a State institution, it would seem very desirable that some scheme like this should be in vogue. It would prevent a patient from going from one physician to another to obtain an abnormal quantity of the drug. One of the new regulations of California places a limit upon the amount of the drug which any one physician may prescribe for such a patient, but there is nothing to prevent such a patient from giving fictitious names and going from one physician to another, and obtaining in this way an unreasonable and unnecessary amount of narcotic.

This class of people have so little respect for themselves or others as to make it unnecessary to conceal their identity. In our opinion it would be a proper safeguard for all concerned to have these people registered and properly identified, so that the law might be enforced in spirit as well as in letter. We believe the California State Board of Pharmacy should take some steps to

see that the narcotic law is administered honestly and decently in the behalf of all concerned.

SOME PROTECTION NEEDED.

With all this League of Nation stuff and brotherly love bunk, which is occupying the attention of our Congress, little or no attention is being given to the protection of our own people and industry. With the foreign countries bidding feverishly for American business, we soon may see our infant industry, in many lines, undergoing post-mortem examination.

It is said on good authority that Japanese pencils are being dumped upon American markets at twenty cents per gross. If this is true how long may we expect American competition and American labor to stand up under such competition? The price of labor in foreign countries is a mere pittance as compared with that in America. Our American people cannot, and will not, exist under the same standards of living as these foreigners.

In Japan, we are told, the skilled workman receives as little as fifty-six and sixty cents a day. For similar work in America we pay our men from five to ten dollars a day.

Before the war our chemical manu-

facturing business was a mere toy as compared with those of Germany, where high class technical chemists could be had for as little as fifty to seventy-five dollars a month. Without adequate tariff protection how can we expect to keep our manufacturing industries if we must compete with Germans, Japanese and other foreigners. Japan today is in a position to exceed German competition in her bid for world business, and this she is doing not only because of labor conditions, but through unfair methods of competition. If we don't soon wake up, we may realize when it is too late that America is for foreigners and not Americans.

DELIVERY CHARGES.

The question, "Who pays the freight?" is becoming more and more important. Elsewhere in the Journal you will notice the minimum wages fixed by the Labor Commissioner. The conditions and wages will make a material difference in your expense account in the future. You will come fully to the conclusion that it costs money to deliver packages. In our opinion the question is important enough to settle at once whether the public should be charged a fixed delivery fee or other prices should be changed sufficiently to cover this new item of expense. We presume the question will be largely answered by individual localities, as it depends very much on the class of patronage and the local conditions. At any rate some means of letting the public know should be devised, so that your patrons will not feel, as they so commonly do, that you are taking an unjust advantage of them. This is a question which the local societies should thrash out and settle for the best interests of all concerned.

LIQUOR PRESCRIPTION.

The pharmacist who hopes to reap the harvest in the liquor business will be disappointed. In the first place a doctor must be found who will write

such a prescription; secondly, the druggist must have a retail liquor dealer's license; thirdly, he must have made application and received permit, form 737, and fourthly, he must be satisfied that the prescription is bona-fide and issued by a physician personally treating the case; fifthly, the doctor must place your name upon the prescription before you are allowed to fill it, and sixthly, the patient's name and full address as well as the date and nature of illness must appear on the prescription; seventh, the prescription must be in duplicate and both copies signed by the doctor; eight, the quantity prescribed must not be more than one quart; ninth, the prescription must be carefully filed and the complete data forwarded to the Collector of Internal Revenue monthly. The prescription, of course, cannot be refilled.

The above regulations apply to wine, brandies and whisky, etc., also to alcohol. If you have complied with all of these rules and regulations, you may conclude that selling fire-water is questionable business at best.

VACATION TIME.

Well, Mr. Pharmacist, have you had your vacation? If not, why not? You, doubtless, need it worse this year than ever before. You probably never can remember when you did a larger year's business, and if you did not get a reasonable share of the profits it was your own fault. We all need a little change now and then. Standing behind the counter month in and month out is not calculated to sweeten the disposition. We need to get away from our old haunts and surroundings to enjoy more of God's sunshine and fresh air; to meet people of all walks of life and forget the shop-talk and business worry. It will add ten years to the life of the average man. By all means get away, if for only a week, and try to feel once more that you are free from care. It will prove a better tonic than anything you have in stock.

NARCOTIC PRESCRIPTIONS.

As we understand it, there is little change in the recent rulings that will disturb the reputable pharmacist. Those who are prescribing for habitual users, according to the new State Law, are allowed to give a limited quantity of the drug for limited time. A report of this must be given to the State Board of Pharmacy by registered mail. The pharmacist who winks at unlawful prescribing of the drug, becomes a party to the violation of the law. The law in no way interferes with the regular physician in his legitimate practice. Mighty few cures for the morphine and cocaine habit were ever effected by giving the drug in any quantity. These pests, by law should be forced to go to a State institution. The foregoing regulations while a trifle annoying at times are reasonable and will undoubtedly assist in curbing the drug fiends and the people who criminally assist in supplying them. The druggist and physician will soon be required to account for every atom of these drugs dispensed.

It is interesting to note that a physician is not allowed to prescribe for himself. This is quite proper and may materially assist in lessening the number of professional dope fiends.

CIGAR SMOKE AND NICOTIN POISONING.

It is well known that nicotine is a very poisonous substance. An insignificant quantity if injected hypodermatically would result in death. Why the inveterate smoker does not receive more injury has long been a mystery. Most of the poison is probably destroyed in the burning of the tobacco. According to recent experiment fully one-third of this volatile alkaloid can be recovered in the smoke. If we could have a nicotine-free tobacco it would remove much of the objections and possible injury of the drug. In doing this, however, volatile constituents responsible for the flavor or aroma are

destroyed, and consequently the smoker loses a certain amount of the so-called pleasure. Other methods, too, have been devised for minimizing the possible injury of nicotine, but so far have proved useless. Experimental data, too, shows that the difference between the so-called mild and strong cigar is not measured in nicotine content.

Those who are in the habit of inhaling tobacco smoke doubtless receive considerable injury from the nicotine content of the smoke. It would prove an interesting comparison of possible value to compare the nicotine absorption of smoking tobacco with that of chewing it. That both have a certain element of injury there is no doubt.

REFERENCE BOOKS.

How many of us can boast of having the necessary and essential up-to-date reference books for the proper practice of our profession? We believe pharmacists as a class are very prone to neglect the purchase of essential and necessary up-to-date books. It is not necessary to have a whole library for reference in the practice of Pharmacy, but it is very necessary to have the latest editions of such well-known works as Practice of Pharmacy; the Ninth Edition of the U. S. Pharmacopoeia, the U. S. Dispensatory; a modern dictionary; a few good chemical reference books, as well as at least two or three of the modern monthly journals. These works are absolutely essential and necessary for the everyday reference of the pharmacist. If we can afford more we should have more.

We had occasion the other day to visit one of the modern, high-class pharmacies in San Francisco, and we were very surprised to find these latest works sadly wanting. It is just as essential for the pharmacist to keep up-to-date in his studies as it is for the physician and other professional men. Indifference and refusal to keep up-to-date is absolute evidence of professional incompetence.

"THE MEDICINE AND PHARMACY OF ANCIENT INDIA."

By SAILENDRA NATH GUPTA, Phar. B.

Centuries before the Christian era—nay, long before the advent of the prophet and founder of Judaism—the dawn of true civilization broke upon the horizon of India or Bharatta Varsha, as it is called in Sanskrit. As early as Vedic period, which dates from 5000 to 2000 B. C., the Aryans, whose original place of habitation was somewhere in Asia, began to send out successive waves of migratory bands in search of new dwelling places. Of these tribes or clans some spread themselves over the great table land of Iran and the plains of the country now called India, where they established themselves and followed their original occupation of agriculture and the raising of cattle of various kinds. Those Aryans who emigrated into India came from the Northwest and settled in what is now known as the Punjab, occupying the Indus River Valley and later spreading over the valley of the Ganges, reaching the bank of the latter as early, probably, as 2000 B. C.

What we know of the culture of ancient India is almost exclusively derived from the collection of poems, prayers, incantations, precepts, etc., which form the sacred books of the Hindus known as The Vedas or "Revelations." These are written in Sanskrit, which is believed to be the oldest form of Aryan speech and to which all the modern Indo-Germanic languages can be traced as derivated. There are four of these Vedas, which have become canonical: Rig-Veda, Yayur-Veda (or Ayur-Veda), Sam-Veda, and Atharva-Veda. While these books are admittedly ancient, there is little difference of opinions among Sanskrit scholars as to the dates assigned them. We shall not discuss the question here, but only remark at this point that they consist of, first, Mantras-hymns and prayers addressed chiefly to the deities; second, Brahman-as, which are commands and rules for con-

ducting the ritual. There is also a vast amount of information regarding anatomy, physiology, therapeutics, materia medica, certain chemical operations, etc.

The period of Indian History:—It is convenient to divide the history into three periods as follows: (1) The Vedic period extending from the immigration of the Aryans into Punjab until about 1000 B. C.; (2) the Brahmanic period characterized by the domination of the priestly caste and extending to (3) the Arabian period which began about 1000 A. D.

This classification is useful in writing the history of medicine, for medical theory and medical practice are closely bound up with social customs of the people in which they prevail and even with their religious beliefs and ideas. The Vedic period is so called because its civilization is reflected in the text of the four Vedas mentioned; and in these we find a progression in the ideals of the people. The Rig-Veda, the oldest book of the series, is pervaded by a youthful, sensuous joy, the joy of being alive and seeing and hearing and acting. The universe was peopled with personified forces of nature who could be propitiated by offerings when they showed an inclination to do harm and were kept in a good humor generally by the practice of a naifcult. It was the epoch of a highly imaginative polytheism. Toward the end of the period a change had taken place. The eye is turned inward. There is a tendency towards introspection and withdrawal from the concerns of the material world. The primitive nature worship dissolved into theocracy, the union of the individual with a supreme Being through contemplation. It was at this time, the tenth century before the Christian Era, that the caste system began to assume the form which it maintained throughout the subsequent ages.

In the Brahmanic period the tendencies which characterized the close of the preceding epoch become fixed. There is now a dominant priesthood which restrains individual action and even opinion. The old-nature worship

is put aside and an elaborate ritual usurps its place. A wealth of symbolism is introduced to appeal to the imagination. In the Atharva-Veda we see this transition from the sturdy confidence in individual strength and power to a timid fear of the demoniac forces of nature and magic power—and indication of the influence which the priests were exerting and of the superstitions which has taken possession of the people at the end of the Vedic period.

The Arabian period forms a chapter in the history of the Middle Ages and will not be discussed here.

An important event in the history of India was the invasion of the country by Alexander the Great in 327 B. C. It brought the civilization which was then regarded as the remote East into contact with that of the West, not only from the material standpoint, but from the intellectual as well. There is no doubt that the later Greek philosophy was strongly tinged with Hindu ideas.

Our knowledge of the theory and practice of medicine as it prevailed in those early times is derived mainly from Rig-Veda and Atharva-Veda. As might be expected, disease was regarded from a supernaturalistic standpoint, and its cure was, in main *theurgic*. There is, however, a difference between the older and the newer conceptions. In the Rig-Veda disease is the consequence of some violation of the laws of nature, and is imposed as a punishment by the personified forces of nature—the primitive gods. Obviously these evil effects may be overcome by appealing to the powers whose immutable dictates have been violated. The remedy is prayer, invocation, offering, and a soul-inspired promise to abstain from evil courses in the future. In the earlier Vedic period these prayers are simple and touching. There was no particular god or group of gods to whom they were addressed. These deities were not at this time regarded as real personal beings with an independent existence. They were mere personifications, symbols, if you will, of natural forces,

pictures which the sick man required in order to fix his attention when he raised his arms or prostrated his body in prayer. Among these deities are the Asvins, who heal gods and men and are proficient in the art of surgery, Rudra, AGNI, Sraswati, etc.

In the Atharva-Veda these simple prayers and supplications are replaced by a jumble of magical formulas, incantations and exorcisms, addressed to specific demons of disease with which the earth and regions below and above it appeared to be crowded. The incantation, etc., of the Atharva-Veda are of various kinds. Some are addressed directly to the evil spirit who is supposed to be responsible for the trouble; others are directed against evil-disposed persons who have become possessed of a demon and through its malignant influence have brought illness upon others. *The use of amulets to ward off or cure disease was general.* It was believed that it could be made to pass from one human body into another, and even into the body of one of the lower animals. Neuberger in his *Geschichte der Medizin* quotes:

"To Takman, who possesses glowing weapons, I make my bow. 'O Takman, go to the Mudschavant, or go farther. Go to the sudra woman, exuberant with health, attack her, make her shake somewhat. O Takman.'"

Takman was a bad fever, apparently very prevalent at that time, for it is frequently mentioned in the Vedas. The health-bringing virtues of certain natural objects were also personified.

In all this theology and demonology what can we conceive? We conceive, if we look upon the facts in a deep and penetrating attitude, that even in the very beginning of the civilization the Aryans conceived that mind is the root of suffering and enjoyment, and that common man mind has not the power to utilize that force upon mind so as to shake off the chill, dampness and suffering caused by the violation of natural law, consciously or unconsciously. To save the mass of people these symbols, incantations, prayers were in-

troduced to console and stimulate their minds which will act upon their health and lead to an early recovery.

Although in the medicine of the Vedic Age theurgy predominated, there are also evidences of a more rational attempt to explain the nature and cause of disease and to make use of certain therapeutic agents of a more material nature. Fragments of this empirical knowledge are scattered here and there throughout the books without order or system. There was some knowledge of anatomy and there are speculations of a rather fantastic nature; regarding physiologic processes, a number of poisons were known, their actions, and their antidotes. We also find some curious explanations, or at least, attempts at explanations of certain mathematical relations between numbers which were regarded as being useful in the treatment of disease. Even in so remote a period the Hindus conceived the idea, though in a crude form, 'Similia, Similibus curantur'—which theory is so accurate, that the modern civilized world accepted this theory in a form—called the theory of immunity and vaccine,—which practically unfolded a wonderful secret works of nature—this theory was accepted by the wonderful genius Hahnemann—the father of Homeopathy. The theory of hygienic development was also noticed by the Hindus—at a very early period we find observations regarding the good effects of fresh air—specially in the form of seawinds—and water in the treatment of certain diseases. Bathing in a clear stream, was recommended especially in the Ganges, because she was a broad river at that time and her water was pure. Mineral waters were prescribed to drink and others to be used for bathing the sick body.

We find poetical expression of this therapy in the Rig-Veda of the wind it is said:

"Two winds hurry hither, from the ocean, from a distant place,
May the one bring you strength, the other blow away your malady."

The virtues of water are praised in the following lines:

"Powerful for cure is the flood of water;

Water cools fever's glow,
Powerful for cure of all passions,
May water's flood bring thee health."

I might here quote from one of the greatest authorities of a foreign origin. Neuburger says:

"The empirical knowledge of medical facts were of no mean order, and a number of diseases are pretty accurately distinguished and described, for example, scrofula, phthisis, dropsy, epilepsy, certain diseases of the heart, jaundice, hemiplegia, skin affections, genito-urinary diseases, certain hereditary diseases, leprosy, and others."

There was a materia medica, limited to vegetable substances, of which few, however, can be identified. Medicinal plants were used from the very dawn of Aryan civilization.

A medicament which enjoyed special reputation was the Soma. The nature of the plant has been a matter of considerable discussion among scholars.

Tschirch says, that the "holy Soma" was the milky juice of *Sarcostemma Viminalis* (acida) or *Asclepias Acida* (Syriaca). It was believed, that holy soma was under the special protection of the diety "Soma"—the pacifier—that which brings normal stage, in proportionate dosage; excessive dosage produces intoxication. This same drink played an important role in the Hindu mythology and ritual. This Soma, when partaken of, furnished nutrition; gave health, power, imparted a knowledge of the virtues of all plants and even conferred immortality—or a longevity of life. Tulasi is another plant mentioned in the Rig-Veda as being possessed of marvellous power. It was sacred to Vishnu and Lakshmi. Some commentators identify it with *Ocimum Sanctissimum*.

Billwa is another plant which was highly praised at the Pauranic period. It was sacred to Siva-Durga.

After Vedic Age, the age mentioned

was called the Brahmanic Age, or the age of the development of Purans,—whether or not physicians as a class, independent of priesthood, existed in the earliest period covered by the Vedas, we have no means of knowing. But it appears that in the later Vedic Age of which Atharva-Veda gives us the information, that there existed a body of physicians who were not under the authority of the Brahmans, but they sprang up from the priestly class and extended their wisdom to unfold the natural elements and its mysteries. The first production was Rasayan, then its theapy, then its relation to creation; then, after long years of continual development, the science Ayurveda was compiled, and those priests or Brahmans who after finishing the four Vedas and its alien subjects intended to extend their wisdom—fifth revelation or Ayurveda and became Vidya. So in the early Pauranic Age there were few Vidyas, but in the course of development of that science a priest-like class was formed, known as Vidyas, but the science remained in one hand; that is, the physician was at the same time apothecary or rather a dispensing doctor. When we come to the Brahmanic Period, we find the Hindu system of medicine methodised and arranged on a rational basis with a scientific terminology. Among several medical literatures, each reflecting the spirit and progress of its age, there existed at least six standard works by Agnivesa, Bhela, Jatukarna, Parasara, Harita, Ksharapani, respectively. Later on, two names stand pre-eminent—Charaka and Susruta. In them we find the study of the subject to have made a distinct advance and to have evolved out of the chaotic state it was in during the Vedic Period. There existed a wide gap between the age of Atharva Veda and that of Charaka, probably an interval of a thousand years. In the latter the humoral pathology is fully developed, the diagnosis and prognosis of the diseases at length and an elaborate mode of classification adopted. Charaka dealt more on physiological

and pathological development of system, Susruta on surgical development. There has been considerable discussion among scholars as to the dates to be assigned for the composition of these works. In handling subject matter the Charaka is not so systematic as the Susruta. The latter is far more scientific than the Charaka. Again, only Vedic gods and mantras figure in the Charaka, not a trace of Pauranic mythology being discernible in it. Charaka follows closely the Vedic authority in counting the number of bones in the human body, the limit of childhood he takes to be thirty years,—quite in keeping with the conception of the heroic age. The simple, unvarnished prose of the Charaka reminds one of the Brahmanas of the Vedas. In short, judging both from the manner of the work, we are inclined to believe—in placing Charaka's existence in the Pre-Buddhistic era.

Now we shall revert to the subject matter under Susruta. As regards the latter we are on more solid ground. Its terminology and technique, in general, do not differ much from those of the Charaka. In style the Susruta is rather dry, pithy, laconic, and matter-of-fact, as Charaka is discursive and diffuse, and its composition altogether would point to a much later date. Revised edition had been compiled by the celebrated Buddhist Chemist, Nagarjuna, who is said to have added the Uttaratantra or the supplement. Here for the first time in the history of the Hindu Medicine and Chemistry we come across a personage who is historical rather than mythical. The Susruta is par excellence a treatise on surgery as the Charaka is on medicine proper. Ancient India has acquired considerable skill in the handling of the lancet, for in the Charaka we find a distinction drawn between the "Kaya-chikit Sakas" i. e. the physicians properly so called, and the "Dhanvantvari-sampradayas" i. e. followers of Dhanvantvari or Chirurgeons. The age of Susruta has been the subject of animated controversy for a long time past. Different schools of people have differ-

ent opinions. But it is an established fact that the above works flourished in the pre-Buddhistic period. Some of the scholars do not even tolerate that Europe owes an intellectual debt to India, hence many futile attempts to explain away positive historical facts. Next to the Charaka and Susruta, the medical authority, who is held in the highest estimation throughout India, is Vagbhata, the author of *Astangahridaya* (heart or the kernel of the eight limbs or division of the Ayur-Veda). Next to Vagbhata, Vrinda and Chakrapani. Since the days of Vagbhata, metallic preparations had begun slowly to creep into use, and at the time of Chakrapani and his predecessor Vrinda, they had so fully established their claim, that they could no longer be ignored. It is therefore evident, that almost before the birth of Hippocrates the Hindus had elaborated a system of medicine based upon humoral-pathology. The metallic preparations of medicines were fully developed in the advent of the Tantric Age. No definite conclusion has been reached about the period when the Tantras were introduced into India, but the cult of Tantras were on the full swing during the decadence of Buddhism in India. The Hindus did not pay particular attention to alchemy, but no nation is entirely free from it. The Hindus have science similar to alchemy which is quite peculiar to them—known as *Rasayana*. It means an art which is restricted to certain operations, drugs, and compound medicines, most of which are taken from plants. Its principles restore the health of those who were ill beyond hope, and give back youth to fading old age, so that people become again what they were. The knowledge in practical chemistry, prevalent in India in the twelfth and thirteenth centuries A. D. and perhaps earlier, is distinctly in advance of that of the same period in Europe. It was known for instance, that blue vitriol and a variety of the pyrites yielded an essence in the shape of copper and calamine, zinc. The color of flames as a diagnostic test of metals

was well understood. Still more solid progress was effected in pharmacy. For two thousand years or more the Charaka Susruta have been paid all the honors of a State recognized Pharmacopœia. The preparations of caustic alkali in the Susruta with the direction that strong lye is to be preserved in an iron vessel was a high degree of perfection in scientific pharmacy achieved by the Hindus at an early age.

In 1868, a learned Hindu named Gangadhar Kaviraj began the publication of Charaka under the title *Atharvavedopanga, Ayur-Veda Charaka Samhita*. He proceeded as far as the 18th section of the 18th chapter, when the work stopped. In 1878 a continuation was published by Dharanidhor Roy. Later editions of the work, in the original language are by Jivananda Vidyasayar, then by Debendra Nath Sen & Upendra Nath Sen. The publication of translation into English was begun by Abinash Chandra Kabiratnya in 1891. A German translation was made by Rudolf Roth of Tübingen. Extracts have been published by Wise in the *Review of the History of Medicine*, London, in 1867.

Charaka's work is characterized by a minute treatment of the details of his subject. We find elaborate description of various medicaments and pharmaceutical preparations popular in his time. Thus in a section of his book entitled *Rasayana*, he writes of essences, elixirs, in the *Vajikarana* of aphrodisiacs, in the *Chikitsa* of poison and antidotes, in *Kalpa* of purgatives and emetics. He enumerated altogether 500 medicinal plants, all of native origin. Charaka was highly esteemed by his contemporaries and his successors.

Susruta—according to this account the book was inspired by no less a person than Brahma the Creator, Himself. The first manuscript contains 100,000 distichs or couplets, divided into 1,000 chapters. Brahma handed over to Dhannantari the father of Hindu medicine on the earth, he incarnated as Divodas Dhannantari as a scion of the Royal Line of Kashi or Baranashi.

He soon attracted to himself a colony of pupils, eager for knowledge, one of whom was Susruta. Susruta carefully wrote down his master's lectures, which another person, unnamed, finally gave to the world in the form in which we have them.

A complete Latin translation of this work was published by Hessler in 3 volumes, from 1844 to 1852. It is very interesting to the modern world, but many of his interpretations are now regarded as untrustworthy by the modern scholars. A modern edition of the Susruta was published at Calcutta in 1835—1836, and partial translations into English have appeared in the Journals of learned societies. A more recent translation was undertaken by Dr. Hoernle, the first part of which appeared in 1897. What Susruta gave to the world: The existent version is comprehensive in scope, treating everything known to the medical science of the time, from surgery to pharmacy comprises 120 chapters; these are grouped into sections, treating respectively the fundamental principles, pathology, anatomy, therapy, chemistry (more properly alchemy, in which elixir of life is discussed), toxicology and the propagation of human species. We gather from Susruta that surgery has attained a high state of development in India. He gave a list of instruments employed by surgeons of which twenty were sharp, cutting and piercing, and 101 blunt (long, hooks, pincets, tubes, etc.). Cotton, wool, silk, linen, were employed for bandages. Anæsthesia was produced by narcotics. In 1890 Lieutenant Bower, a British officer stationed in Asia, acquired from some native merchants a manuscript written on birch-bark which had been discovered lying under a Buddhist-Monument at Kashgar. The date of the composition was fixed as 450 A. D., which places it in the Buddhist period. The contents of the copy deals with physiology, hygiene, obstetrics, pharmacy, therapeutics.

The Hindu Materia Medica was very extensive and embraced drugs and preparations of mineral, vegetable and

animal origin. By far the largest number of drugs employed were those derived from the vegetable kingdom, which is natural enough, for the Indian flora is rich in poisonous and medicinal plants. Even in very early times export trade of considerable magnitude was carried on in them. Indian nard, cinnamon, pepper, sesamum, cardamom, the juice of sugar-cane were highly prized. Charaka named some 500 of them, and Susruta about 760. Among the parts of the plants were roots, rhizomes, barks, stems, flowers, fruits, leaves, thorns, resins, oils, and even ashes. Lists of the drugs mentioned by Charaka and Susruta are given by their translators and commentators, but unfortunately there is not always agreement among them, owing to the difficulty of identifying many of the plants. One thing is certain, however, and that is that they were, with but few exceptions indigenous to Hindustan.

The physicians themselves were required to study the flowers of their country and to know where, when and under what condition to collect, dry and preserve them.

Among animal drugs used (it will be seen that the *Dreckapotheke* was not wanting) were, blood, gall, the milk of cow, elephant, camel, sheep, and mare, butter, curds, honey, fats, marrow, flesh, skin, semen, bones, elephant's tusks, horns, claws, nails, hairs, gall stones (bezoar), cow's urine, horse's urine, faeces of cow, elephant and cat.

Hindus had considerable experience in operations requiring chemical processes. Their knowledge in this field of technology was of course purely empirical. Susruta devoted a chapter in his work to mineral substances. He wrote of gold, silver, copper, iron and red—antimony, tin, arsenic and mercury and of various chemical compounds of these elements. At a period somewhat later, other compounds become known. Mercury is mentioned in Susruta, but curiously enough, not in Bower's manuscript (a British officer, posted in Kashgar, found a manuscript of pali translation of Susruta). Mer-

curial compounds were extensively used for skin diseases and similar affections, and the metal itself was highly prized as an "elixir" for prolonging the span of human life. Its properties, mysterious to the people of these very early times, invested it with a peculiar claim to veneration and it became known as "King of Metals." Ainslee in his *Materia Medica of India* tells us that the Hindu physicians prepared calomel, zinc oxide, red mercury sulphide, alum, ammonium carb., ammonium chloride, potash and soda, and they were acquainted with fermentation and distillation and manufactured a number of distilled liquors. He also stated that sulphuric acid under the name of essence of sulphur was known to the Hindus. The manufacture of soap and glass, also bleaching and dying were certainly well known to the Hindus.

Pharmacy—Susruta gives a number of interesting though scattered details regarding the preparations, and storage of medicaments. The advice to physicians to protect his storeroom against smoke, rain, wind and dampness is given. He describes the preparation of emetics, cathartics, purgative and various kinds of liquid substances. From him and his contemporaries and successors we gain a fair knowledge of the forms in which medicines were administered to the patient. These are: Plant extract, confections, mixtures, syrups, pills, pastes, suppositories, clysters, powders, drops, eye-washes, ointments, fumigations and drinks. Plant extracts were made by maceration decoctions or infusions in an appropriate menstrum; some decoctions were evaporated to a partial dryness and then incorporated with oils, butter or honey, the resulting compound being a confection. Many of the drinks or tisanes were made by adding active medicinal substances to fermented beverages of various kinds (as was also the practice in Egypt). The prescriptions given are as a rule polypharmaceutic in character, the number of ingredients being very large, and many of them bear fanciful names. Cosmetic (particu-

larly hair dyes, softening skin, etc.), aphrodisiacs (called the love potion), elixir for prolonging life and similar things not designed strictly for curative purposes, held a prominent place in the *materia medica*. Toxicology was developed—because the position of the Hindu rajah was an unenviable one, for he lived in continual terror of poison,—the favorite means employed by envious rivals or dissatisfied subjects to get rid of him. The study of poisonous substances and their antidotes received particular attention. The rajahs kept court physicians versed in toxicology for the protection of their own self—who constantly watched the unfavorable development of symptoms and applied the proper antidotes without delay. There was a rigid law that whoever discovered a poison should not divulge it until he had found its antidote, under the penalty of death. Otherwise he was rewarded for the discovery of reliable antidotes. It is for this reason, toxicology is given so large a space in the writing of Hindu doctors.

(To be Continued.)

IT IS NOT ALWAYS EASY—

- To apologize,
 - To begin over,
 - To admit error,
 - To be unselfish,
 - To take advice,
 - To be charitable,
 - To be considerate,
 - To keep on trying,
 - To think and then act,
 - To profit by mistakes,
 - To forgive and forget,
 - To shoulder a deserved blame,
 - BUT IT ALWAYS PAYS.
- Selected.

"I am surprised to see you have such a quantity of preserves left over from last year."

"Nobody could get the lids off," exclaimed the housewife briefly.—*Illustrated World*.

SAVE—lend to the Government—
HAVE. Buy W. S. S.

SLEEPING SICKNESS

Lethargic Encephalitis.*

From U. S. Public Health Reports, February 21, 1919.

The following data are abstracted from a review of the Government report, published in a recent number of the British Medical Journal, to which acknowledgments are hereby extended.

"The disease is an acute affection due to a specific virus, which, like that of acute anterior poliomyelitis, probably finds entrance through the naso-pharynx, and which, like it, has a special affinity for the nervous system, though for different areas and elements.

"Pathologically, lethargic encephalitis belongs to the class of polio-encephalitic diseases which are inflammatory in nature. Bacteriological investigations did not yield any positive results.

"Clinically the disease is a general infectious disease characterized by manifestations originating in the central nervous system, of which the most frequent and characteristic are progressive lethargy or stupor and lesion in or about the nuclei of the third pair of cranial nerves. Although a rise in temperature was not observed in all of the 164 cases of the disease of which notes were obtained, there seems to be little doubt that there is always a certain amount of fever in an early stage, although occasionally it may not be observed for several days after the onset of symptoms. The common range is between 101° F. and 102° F., but temperatures up to 104° F. are not very uncommon, and in a few cases a temperature between 104° F. and 105° F. has been reached. The pyrexia usually lasts from 2 to 5 days, but may continue for 10 or even 14. It may fall suddenly or gradually with oscillations.

* Lethargic Encephalitis, "Sleeping sickness," has been declared a reportable disease in California. Reports of all cases that may be suspicious of this disease should be made promptly to the State Board of Health, together with all available data relative to symptoms, date of onset and all clinical data.

A period of subnormal temperature not infrequently follows.

"In the majority of cases a prodromal period may be recognized, but it is not very well defined, the symptoms being the early stage of those of the developed disease. Usually the first symptom is simple catarrhal conjunctivitis and in a smaller number of cases tonsillitis, simple sore throat, and bronchial catarrhs were observed, but the salient symptom observed in 80 per cent. of the cases at this stage was progressive lethargy. It might be ushered in suddenly by a fainting attack or fit, but the onset was more often gradual. The patient became dazed or stupid, slept a great deal, and was drowsy by day. In marked cases the lethargy was accompanied by heaviness of the eyelids, pain in the eyes, blurred vision, and photophobia, and, in a well-marked case, gradually passed into stupor. Headache was common, and giddiness was a highly characteristic early symptom, and in some cases was accompanied by diplopia. Mental hebetude was often associated with a highly emotional state, and the patient might exhibit, without apparent cause, symptoms which might be labeled hysterical. In other instances the mental depression was so great that melancholia was suspected. In a few cases only was the patient restless and irritable. The patient may be indisposed to speak, sometimes has distinct difficulty in articulation. The most frequent and characteristic signs in the prodromal period may be summed up as lethargy, asthenia, vertigo, headache, diplopia, and some alteration in the mental state.

"After this prodromal period if it occurs, the symptoms of a general infectious disease become manifest; the febrile reaction already has been mentioned. The patient lies in bed on the back, often unable to make any voluntary movement on account of great muscular weakness; the face is quite expressionless and masklike, and

there may be a definite double facial paralysis. The severest cases lie like a log in bed, resembling a waxen image in the lack of expression and mobility, and this may be accompanied by catalepsy. The patient is in a condition of stupor, although true sleep is not often obtained. Delirium, usually nocturnal, is not uncommon, and in addition to the muscular trouble there is distinct rigidity in a considerable proportion of cases. The voice becomes nasal and monotonous, sentences are uttered very slowly and words slurred into one another. Occasionally, however, once started to speak, the patient chatters sentences with so great rapidity that he is often unintelligible. Irregular non-rhythmic spontaneous movements of the face, trunk, and limbs, resembling those seen in chorea or thalamic infections, are not infrequent. Cases occur which present the general symptoms of the disease—pyrexia, lethargy, asthenia—without localizing signs, and as a rule can only be diagnosed from the general surrounding circumstances. The commonest localizing sign is ophthalmoplegia, recognized in 75 per cent. of the cases examined. Ptosis is the commonest form of third nerve paralysis and is usually at some stage bilateral. Finally, paralysis is usually bilateral, or becomes so, but is almost invariably more intense on one side than the other.

"Diagnosis.—The most common error in diagnosis is to attribute the condition to tuberculous meningitis; in many cases a differential diagnosis from cerebrospinal meningitis can not be made without an examination of the cerebrospinal fluid, which is little, if at all, altered in the majority of cases of lethargic encephalitis.

"Some of the other difficulties encountered have already been mentioned, but the essential difficulty is to separate lethargic encephalitis from the rare cases of the cerebral form of infantile paralysis. The resemblance is very close, and it seems probable

that some of the cases reported in the past as cerebrospinal poliomyelitis may have been examples of the disease now newly recognized in this country (England). Dr. McNalty has arranged the chief criteria for diagnosis in a table which is too long and detailed for reproduction here. The main points to be noted seem to be that, though the chief symptoms of lethargic encephalitis have been described in cases reported as cerebral poliomyelitis, they are slight, of much briefer duration and not so constant; lethargic encephalitis, on the other hand, has a very definite clinical syndrome, characterized by progressive stupor or coma, alternating delirium, headache, giddiness, asthenia, mental and emotional changes, and in the majority of cases, by paralysis of the third pair of cranial nerves. Paralysis, when present in lethargic encephalitis, is usually bilateral and restricted to cranial nerves, but has commonly cleared completely or is less in degree two months after recovery. In these respects it presents a marked contrast to acute poliomyelitis.

"There are clinical indications that in the present outbreak both poliomyelitis and lethargic encephalitis have occurred, but not in association with each other.

"Dr. McNalty considers that the question of the identity or non-identity of the two diseases is still open, but suggests that the relation between them may perhaps be comparable to that known to exist between typhoid and paratyphoid fever."

THE MANUFACTURE OF CHLORAMINE-T.¹

By J. K. H. INGLIS.

Although two years have elapsed since Dakin showed the value of chloramine-T as an antiseptic, no detailed account of the method of manufacture has yet been published. The drug has shown itself of great value in cases of

¹ Reprinted from Jour. of the Soc. of Chemical Industry, September, 1918.

cerebrospinal meningitis, diphtheria, etc., and after a trial of a small specimen which I had made, I was asked to supervise the manufacture of a regular supply for the military camps in New Zealand, it having been found impossible to procure it outside the Dominion.

In Dakin's work the starting point for the preparation was *p*-toluenesulphonic chloride, obtained as a by-product in the manufacture of saccharin. No such material being available in New Zealand, details had to be worked out for the manufacture from toluene itself, and these details form the material for this paper.

Sulphonation.—The sulphonation of toluene with concentrated sulphuric acid leads to the formation of the three possible monosulphonic acids; but the higher the temperature the larger the proportion of *p*-acid (Ber., 1911, p. 2504), the highest proportion being 70 to 80 per cent. The price of sulphuric acid being relatively high in New Zealand, I found it best to use two parts by weight of sulphuric acid (sp. gr. 1.84) to one part of toluene (approximately equal volumes) and to carry out the sulphonation at the boiling point of toluene. 250 Cc. of sulphuric acid (1.84) is heated to 110° C. by immersing the reaction flask in a heated paraffin bath, and then 250 Cc. of hot toluene is added, the whole being very vigorously stirred with a glass circulating stirrer. The efficiency of the stirring is very important, as upon it depends the time necessary to complete the sulphonation. This reaction was carried out in a flask fitted with a reflux condenser, and only a small loss of toluene vapor took place, sulphonation being complete in about thirty minutes with very little charring. Under these conditions about 75 per cent. of the toluene is converted into the *p*-sulphonic acid, the remainder being a mixture of *o*- and *m*-acids. If this mixture of acids was isolated, converted into dry sodium salts, and treated with phosphorous pentachloride, the *p*-chloride could be obtained; but as the other

chlorides would be useless there would be a considerable waste of material. We therefore made use of Lange's discovery (Ger. Pat. 57, 391) that if water is added so that the mother liquid consists of only 66 per cent. sulphuric acid, then on cooling, the crystals that separate consist only of the *para*-acid which separates almost completely—the mother liquid retaining the *o*- and *m*-isomers in solution. In order to carry this out, 45 Cc. of water is added to the reaction mixture after sulphonation as above and the liquid poured out and cooled. The liquid rapidly crystallizes and sets to a crystalline cake, and on filtering over an asbestos mat (as in a Gooch crucible) nearly the whole of the mother liquid can be drained away, leaving a white crystalline mass which proves to contain only small amounts of *o*- and *m*-impurities. The crystals that separate appear to be the monohydrate, $C_7H_7SO_3H \cdot H_2O$, and correspond to about 75 per cent. of the toluene taken. Hence about 25 per cent. of the toluene is either lost as vapor or is contained in the mother liquid in the form of the *o*- and *m*-acids. The separation by crystallization is, however, not very sharp, and the mother liquid on standing continually deposits further crops, which, however, are nearly free from the *para*-acid.

The *o*- and *m*-acids being useless to us, experiments were made by Mr. C. L. Carter at my suggestion, to see how completely the toluene could be recovered by the action of superheated steam. It was found that if the liquor were heated to about 170° and then a brisk current of steam at 200° were blown through it the bulk of the toluene was rapidly evolved, the distillate containing at first as much as 20 per cent. toluene. When the percentage fell below 5 per cent. the operation was stopped, as further continuance was hardly profitable (Armstrong, *J. Chem. Soc.*, 1884, 45, 148). The total amount thus recovered was about 14 per cent., leaving 11 per cent. not accounted for. Part of this is lost by evaporation dur-

ing mixing and subsequent sulphonation, and a small part is left in the sulphuric acid. Probably most of the remainder is lost by evaporation *in vacuo* during the filtration of the crude acid.

The cake of crude *p*-acid is dissolved in water, slightly more than enough calcium carbonate is added to precipitate the sulphuric acid as calcium sulphate, and the still acid liquid is filtered. It is then nearly neutralized with caustic soda, made distinctly alkaline with sodium carbonate, boiled, and again filtered. It is important to remove the calcium as completely as possible, as it may become a troublesome impurity in the later stages. This method gives a solution containing only sodium sulphonate and sodium carbonate, and on acidifying with hydrochloric acid and evaporating to dryness there remains a pure white salt consisting of the required sodium sulphonate with a trace of sodium chloride. The sulphonate is so soluble in water that this seems to be the best method of preparation.

Preparation of the Sulphonic Chloride.

—This can easily be prepared by heating together on the water bath approximately equal weights of sodium salt (dried at 140° C.) (191 Gm.) and phosphorus pentachloride (208.5 Gm.). In this case the reaction takes place very rapidly and easily and a large amount of phosphorous oxychloride is obtained. Mr. C. S. Hicks, working in my laboratory, found, however, that the oxychloride itself can be used according to the equation, $2\text{XSO}_3\text{Na} + \text{POCl}_3 = 2\text{XSO}_2\text{Cl} + \text{NaPO}_3 + \text{NaCl}$, and he obtained a 76 per cent. yield. Hence if less than half the weight of pentachloride be taken and the mixture be heated some hours on the water-bath under reflux condenser the following reaction takes place: $3\text{XSO}_3\text{Na} + \text{PCl}_5 = 3\text{XSO}_2\text{Cl} + 2\text{NaCl} + \text{NaPO}_3$. The proportions of salt and pentachloride according to this equation are 573 to 208.5, or 2-3/4 to 1; but the reaction is very slow towards the end as the mass becomes too solid and the yield is apt to decrease. This

trouble might be avoided by using the theoretical proportion of pentachloride and sufficient oxychloride, which should then be recovered unchanged. An experimental trial of this gave 92 per cent. yield but the oxychloride was not recoverable. We therefore use 2 parts of sodium salt for each part of pentachloride and the action then completes itself more easily and only small amounts of oxychloride are left over—the reaction being allowed to go on over night under reflux condenser on a water-bath. The oxychloride is then distilled off *in vacuo* and the residue put into cold water. The sulphonic chloride is the only part insoluble and is separated by filtration: a small amount of oily impurity (*o*- and *m*-sulphonic chlorides) can be pressed out from the solid cake. The yield is nearly quantitative, 96-99 per cent. The solid sulphonic chloride still contains small amounts of *o*- and *m*-impurities, but these are gradually eliminated in the later stages.

Preparation of Sulphonamide. — This operation, though quite simple in theory, causes a certain amount of trouble without special apparatus. The alternative methods are treatment with ammonium carbonate on the water-bath and treatment with strong ammonia solution. The latter method, if properly controlled, is decidedly the more satisfactory. If the sulphonic chloride is ground to a fine powder and concentrated ammonia is poured upon it, a violent reaction begins almost at once and the liquid boils. In this way considerable amounts of ammonia are driven off and the action is apt to be incomplete. We had some difficulty in procuring vessels in which the reaction could be conveniently carried out under pressure, and owing to the impossibility of getting special vessels made which would stand the action of a hot mixture of ammonia and ammonium chloride, we used stoneware ginger-beer bottles which had a screw stopper with a rubber seating. 100 Gm. of sulphonic chloride could be placed in each, 100

Cc. of 0.880 ammonia quickly added and the stopper screwed in firmly. On shaking vigorously the action began, and as soon as the bottle became too hot to hold it was placed in cold water. No mishaps occurred and the yield was excellent, the liquid only requiring filtering and the residue washing with cold water. The mother liquors on evaporation give small amounts of the *m*-amide but very little else besides the ammonium chloride. Under these conditions about half the ammonia taken is actually used on a large scale the unchanged ammonia could be recovered by boiling the liquors. The yield of *para*-sulphonamide is 94-97 per cent.

Preparation of Chloramine-T. — The conditions for the conversion of amide to chloramine were given in detail by Dakin, one mol. of amide being dissolved in 1.2 mols. of sodium hypochlorite of definite concentration and the chloramine then precipitated by the addition of strong brine. At first his actual proportions were used, but it was found to be unnecessary to use brine. If the amide is dissolved in a warm, strongly alkaline solution of sodium hypochlorite of concentration 1.3 to 2.0 N, a large crop of chloramine is formed on cooling and the remainder can easily be obtained on evaporation. It is very important to have a decided excess of caustic soda, and for each mol. of amide we usually take 1.05 to 1.1 mols. of hypochlorite and 1 mol. of sodium hydroxide. The preparation of the hypochlorite is of course straightforward. Owing, however, to the cost of acids in New Zealand and to there being no electrolytic source of chlorine, we found it most convenient and cheapest to use bleaching powder as the starting point. The crude chloramine-T obtained in this way is contaminated with sodium chloride; but even the crude crystals on drying contain 92-95 per cent. of chloramine. The substance can be easily purified by recrystallization from water. If dissolved in twice its weight of hot water, a large proportion can be obtained in the pure form (over

98 per cent.) on cooling. The final filtration is apt to be troublesome; the crystals do not pack well on the filter and it is therefore difficult to remove the mother liquid completely. If, however, the cooling is carried out rapidly without stirring a different shape of crystal is obtained which filters much more readily. It is thus possible, working with large quantities, to get a product of over 99 per cent. purity.

Utilization of By-products. — In the sulphonation as described most of the toluene is used, but half the sulphuric acid taken is contained in the mother liquors after removal of the toluene by superheated steam. At first it was hoped that it would be possible to recover the acid in the pure state by distillation and use it over again; but there is always some charring and the impurities remaining make it comparatively useless. It contains 34 per cent. of water. In the remaining stages of preparing the sulphonate the by-products are small in quantity and comparatively valueless. Some lime or calcium carbonate is used and converted into sulphate, but the quantity is very small. In the preparation of the sulphonic chloride the by-products are sodium chloride and sodium *ortho*- and *meta*-phosphate. It would probably be worth while to utilize the latter on the large scale but our experiments are incomplete. In the preparation of the sulphonamide the chief by-products are ammonium chloride and excess of ammonia. The former can be easily recovered and the ammonia could be made use of with suitable apparatus.

In the preparation of hypochlorite and of chloramine, the by-products are calcium carbonate—a nearly pure precipitate—and a liquor consisting of sodium chloride and hydroxide. No doubt use could be made of this liquor but we have made no attempt in this direction. The above results have been obtained under laboratory conditions making some pounds of chloramine per week. Owing to lack of filtering apparatus and other labor-saving devices we have

not made experiments on a still larger scale; but our experiments have always been made with a view to their application to large-scale operations and we have every reason to believe that they would not fail in commercial practice.

*University of Otago,
Dunedin, N. Z.*

TREASURY DEPARTMENT,

Office of Collector of Internal Revenue,
San Francisco, Cal.

July 10, 1919.

To Druggists and all Others Concerned:

Section 1 of the Act of November 21, 1918 (War Prohibition Law), provides that after June 30, 1919, until the conclusion of the present war, and thereafter until the termination of demobilization, the date of which shall be determined and proclaimed by the President, no distilled spirits held in bond shall be removed therefrom for beverage purposes, except for export; also that no beer, wine or other intoxicating or vinous liquors shall be sold for beverage purposes, except for export. It authorizes the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, to prescribe rules and regulations regarding the manufacture and sale of distilled spirits and removal of distilled spirits held in bond for other than beverage purposes, and to govern the manufacture, sale, and distribution of wines for sacramental, medicinal, or other than beverage uses.

In view of these provisions and of the further fact that the Commissioner has jurisdiction under the general revenue laws over spirits and wines on bonded premises and withdrawals from bond for export, the following instructions are issued:

Medical Uses of Wines and Spirits.

Physicians may prescribe wines and liquors, for internal use, or alcohol for external uses, but in every such case each prescription shall be in duplicate, and both copies be signed in the physician's hand-writing. The quantity

prescribed for a single patient at a given time shall not exceed one quart. In no case shall a physician prescribe alcoholic liquors unless the patient is under his constant personal supervision.

All prescriptions shall indicate clearly the name and address of the patient, including street and apartment number, if any, the date when written, the condition or illness for which prescribed, and the name of the pharmacist to whom the prescription is to be presented for filling.

The physician shall keep a record in which a separate page or pages shall be allotted each patient for whom alcoholic liquors are prescribed, and shall enter therein, under the patient's name and address, the date of each prescription, amount and kind of liquors dispensed by each prescription, and the name of the pharmacist filling the same.

Any licensed pharmacist or druggist may fill such prescriptions (1) if his name appears on the prescription in the physician's hand-writing, and (2), if he has made application and received permit, Form 737, in accordance with the provisions of T. D. 2788, and (3), if he has qualified as retail liquor dealer, by the payment of special tax. No such prescription may be refilled.

Druggists filling these prescriptions shall preserve in a separate, carefully guarded file, one copy of every prescription filled, and once a month shall transmit to the Collector of Internal Revenue a list showing the names of the physicians, the names of the patients, and the total quantity dispensed to each patient during the month. These lists shall be subject to immediate examination and frequent review in the collectors' offices, and wherever there is indicated either (1), that a physician is prescribing more than normal quantities, or (2), that any patient, through the services of one or more than one physician, is procuring more than a normal quantity, the Collector shall report the facts to the Commissioner and the U. S. Attorney.

Pharmacists should refuse to fill prescriptions if they have any reason to

believe that physicians are dispensing for other than strictly legitimate medicinal uses, or that a patient is securing, through one or more physicians, quantities in excess of the amount required for legitimate uses.

Wholesale or retail liquor dealers having stocks of wines or liquors on hand, may sell to pharmacists holding permit, upon receipt of order on Form 739 and in conformity with the provisions of T. D. 2788, until their present supplies are exhausted. Such orders may be filled from spirits taxpaid at the \$6.40 rate.

Wholesale or retail liquor dealers who are not licensed druggists or pharmacists will not be permitted to qualify, after their present stocks are exhausted, to deal in either beverage or non-beverage spirits.

Wholesale pharmacists may continue to qualify for the sale of liquors or wines for non-beverage purposes, in conformity with the provisions of T. D. 2788.

Non-beverage alcohol, tax-paid at the rate of \$2.20 per gallon, may be used in filling prescriptions for spirits or alcohol so medicated or denatured in accordance with existing regulations as to be unfit for beverage use. In filling prescriptions for spirits or alcohol not so medicated or denatured as to render it unfit for beverage use, liquor taxpaid at the rate of \$6.40 per gallon only must be used. Tax-paid wine must be used in all cases.

Form 11, application for Special Tax Stamp as a Retail or Wholesale Liquor Dealer will be forwarded by this office on request.

Respectfully,
JOHN L. FLYNN,
Deputy Collector in Charge.

NARCOTIC DRUG INFORMATION.

The following ruling bearing upon the Federal Narcotic law relating to the quantity of narcotic drugs that may be dispensed or prescribed by physicians, dentists and veterinary surgeons

has been received by Collector of Internal Revenue Justus S. Wardell from the Department, and he cautions all persons registered under the Act of December 17, 1914, to closely observe and follow the same:

The ruling contained in T. D. 2200 of May 11, 1915, permitting a practitioner to dispense or prescribe narcotic drugs in a quantity more than is necessary to meet the immediate needs of a patient is hereby revoked and the revocation shall be applicable in all cases whether a decreasing dosage is indicated or not.

The Act of December 17, 1914, as amended by the Act of February 24, 1919, permits the furnishing of narcotic drugs by means of prescriptions issued by a practitioner for legitimate medical uses, but the Supreme Court has held that an order for morphine issued to an habitual user thereof, not in the course of professional treatment in an attempted cure of the habit, but for the purpose of providing the user with morphine sufficient to keep him comfortable by maintaining his customary use, is not a prescription within the meaning and intent of the Act (U. S. v. Doremus, No. 367, October Term 1918, T. D. 2809).

In view of this decision, the writer of such an order, the druggist who fills it and a person obtaining drugs thereunder, will all be regarded as guilty of violating the law.

AMENDMENTS TO CALIFORNIA POISON LAW.

The new amendments to the California Poison Law, as adopted at the last session of the California Legislature, effective July 27, 1919, are as follows:

Paregoric cannot be sold without the prescription of a physician licensed to practice in this State and must not be refilled. Peyote Bean (anahalonuim) was added as a narcotic drug to section 8.

A new section known as 8E was added, in which a hypodermic syringe

and needles cannot be sold without a written, signed order from a licensed physician, osteopath, dentist, or veterinarian, and must contain the name and address for whom ordered and be for not more than one syringe and three needles and cannot be refilled or copy given, but does not apply to a duly registered nurse or student nurse in a hospital or training school for nurses, obtaining or possessing them. A licensed physician will be prevented from prescribing or administering narcotic drugs for or to himself.

A new section known as 8½ has been added requiring that a licensed physician who is treating a drug habitue cannot prescribe more than eight grains of opium or four grains of morphine or two grains of cocaine or two grains of heroin for each day's treatment and at the end of fifteen days of such treatment, shall not prescribe for such patient for each day's treatment, more than four grains of opium, or two grains of morphine, or one grain of cocaine, or one grain of heroin and at the end of thirty days the prescribing or furnishing of any of these drugs must be entirely discontinued and he must also send a detailed report to the office of the Board of Pharmacy by registered mail, of the progress of the patient at each of the above periods; otherwise the treatment will not be considered in good faith. Provision has also been made for persons suffering with incurable diseases or ailments, in which it may be necessary to prescribe these drugs for a reasonable length of time.

CLERKS' CODE OF ETHICS.

At its ninth annual meeting held in Chicago June 10 and 11 the National Association of Retail Drug Clerks adopted the following code of ethics:

1. Members of this association shall regard themselves as being engaged in a business in which there is a well defined legal and moral duty and obliga-

tion toward public health and life and shall apply all honorable means in upholding the dignity and honor of the business and profession.

2. The United States Pharmacopœia shall be accepted as the standard and guide for all official preparations, and variance from its rules be recognized only in exceptional cases where sufficient authority has proved some other process more reliable in attaining the same end. Nothing therein, however, shall interfere with the filling of prescriptions or the selling of medicines ordered in accordance with foreign pharmacopœias, officially recognized text books, and formularies.

3. The value of alcohol as a therapeutic agent, and the legal dispensing thereof as such an agent only, is recognized. The sale of alcohol as a beverage and of unlawful abortives or habit-forming drugs shall be considered sufficient grounds for expulsion of the offender from membership in the association. The secretary of the association shall then so report this action to the secretary of the State Board of Pharmacy recommending the revocation of the certificate of registration, as provided for by the State pharmacy law.

4. Members shall not be a party to the practise of the commission system or secret formulæ between physicians and pharmacists.

5. Members of this association shall not falsely or maliciously, directly or indirectly, injure the personal or business reputation of a fellow member. Members shall at all times uphold the professional reputation of physicians, in return expecting the same consideration from the medical profession.

6. In view of the fact that the professional training of a pharmacist does not qualify him intelligently to diagnose and treat diseases, members shall decline to give medical advice, and refer the general public seeking such advice to a regular practicing physician.

There is nothing gained if you win a bargain and lose a customer.

THESE ARE SUPERIOR PRODUCTS

Arsaminol

(ARSPHENAMINE)

AND

Neo-Arsaminol

(NEO-ARSPHENAMINE)

"606" Equivalent

"914" Equivalent

Made in the U. S. A.

TAKAMINE LABORATORY, New York, N. Y.

Under Federal License and Government Inspection

License No. 2, 2a, 2b, 2c

Meets the Most Exacting Requirements

LOW TOXICITY

Reduced to a minimum and lower than the Government Standard.

GREAT SOLUBILITY

Dissolves instantly in water at room temperature. No heating required.

HIGH THERAPEUTIC VALUE

Contains Government standard of Arsenic, which therapeutic value is enhanced by low toxicity.

These products are manufactured by Dr. Takamine (discoverer of Takadiastase and Adrenalin) and chemists lately associated with Dr. Hata, co-worker with Prof. Ehrlich, discoverer of "606" and "914."

PRICE LIST AND DISCOUNTS ON APPLICATION

Pacific Coast Distributors

PACIFIC WASSERMANN LABORATORIESSAN FRANCISCO
Pacific Bldg.LOS ANGELES
Hollingsworth Bldg.OAKLAND
Physicians' Bldg.SEATTLE
Green Bldg.**ALAMEDA COUNTY PHARMACEUTICAL ASSOCIATION.**

July 8, 1919.

Gentlemen:

Enclosed with your last phone bill was slip notifying you that a rebate on account of poor, or no service, would be given upon application. The Executive Committee of our Association will take the matter up at the next meeting. If you have any suggestions or experiences, bring or mail them to your Secretary at once, 1410 Fruitvale avenue, Oakland, Calif.

In our letter a few weeks ago we asked, Why not charge for delivery of packages? Two suggestions were sent to the Secretary's office—(1), That a charge of 10c be made for packages under 50c; (2), That if the delivery of a package requires the expenditure of carfare, that the carfare be charged to the customer.

Shorter Sunday hours are being agitated in San Francisco, Oakland and

country drug stores. Seven stores in Oakland start this coming Sunday, closing for the day at noon. Are you in jail Sunday? Think it over, talk to your neighbor and both lock the door and come out in the sunshine.

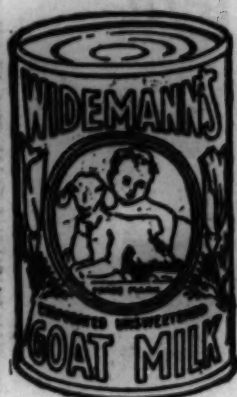
An 8:00 A. M. to 8:00 P. M. day for week days, is also being considered.

The Liquor Law brings to the druggist many new problems, among them the sale of Essence of Jamaica Ginger. Some pharmacists have solved it thus: Only one ounce is sold at a time, the charge 25c. Repeat sales are refused. If the customer insists the ginger is for stomach ache, recommended one teaspoonful of powdered ginger to a cup of boiling water, strain and add a little sugar.

We think all pharmacists should look askingly on sales of large quantities of Essence of Jamaica Ginger, especially when the request comes from strangers.

Druggists without wholesale narcotic licenses are warned they can not return narcotics to the wholesale houses accept-

Recommend

GOAT MILK11 oz. can
Retail 25c

For Malnutrition of Infants and for Invalids. Invaluable in Tubercular cases. Do this and your customers will become your friends.

We can assist in building up a good business.

Send for our Sales Helps

**Widemann Goat Milk
Laboratories**

Physicians Bldg. San Francisco

ing narcotic orders for same. The new phase of the law has been taken up with the proper authorities by your Secretary. Just how they may be lawfully returned is a question. Without a wholesale narcotic license you cannot accommodate your neighbor druggist with narcotics.

Woodbury's, Resinol and Cuticura Soaps are still held taxable by the Authorities in this district. You will be promptly notified of any change in this ruling.

Druggists selling liquors in dry district in violation of City or other municipal laws are subject to a special federal tax of \$1000.

Narcotic licenses will be distributed in 2 or 3 weeks. If you have paid your money and not received yours do not worry.

Instructions for the sale of liquors on prescription will be enclosed in our next letter. Our first reading of these rules makes us feel safe in saying—the less we have to do with them the better.

We have application from a regis-

tered clerk asking for position.

Prices noted by your Secretary.

Yours truly,
W. BRUCE PHILIP,
Secretary.

MARKET LETTER.

By F. W. DESSEL.

The summer months as a general rule are not a period of marked price changes. During the last few weeks the market generally has been quiet. The price of crude drugs is still very firm and in a few instances unprecedented prices rule. In the great majority of the more common chemicals and pharmaceuticals the price changes are comparatively unimportant. Olive oil is very firm and advancing in price; in fact, all the fats and fixed oils are very firm, owing to the fact that a world-wide shortage exists.

The following advanced:

Phenol, salicylic acid, mercuric salts, cod liver oil, ammonia, camphor, copper salts, hops, licorice, galls, nux vomica, olive oil wintergreen oil, rhubarb.

The following declined:

Acetanilide, acetphenitidin, antipyrine, gum arabic, atropine, milk sugar, tar, cinnamon, coriandrum, potassium salts, caustic soda.

DRUG STORE for sale, on account of death of owner, at Sunnyvale, Santa Clara Valley. Store doing a good business on very light expense. Stock invoiced at \$5,200; will sell for \$5000. Sunnyvale is an ideal home town, also a manufacturing and fruit packing center. This is a grand chance for a druggist of procuring a good business and pleasant home. For particulars apply to F. A. Weck, 501 Third Ave., San Francisco.

DRUG STORE for sale at Stockton, Calif. A popular and well established business, having a large trade is offered for sale; price \$13,000 or inventory. This is an opportunity seldom found. For particulars apply to F. A. Weck, 501 Third Ave., San Francisco.

"What's a polyclinic, Jim?"

"Why, it's a kind of hospital for parrots, stupid."

PERSONAL AND DRUG TRADE NEWS

By Our Special Correspondents

Robert Foster, of the Frank Rogers Pharmacy, Watsonville, recently returned from France.

There are now 1,025 graduates of the California College of Pharmacy.

G. M. Luttrell, of Santa Rosa, was a recent San Francisco visitor.

Miss H. H. Patterson of Sunnyvale, Calif., was a recent San Francisco visitor.

The Bowman's Drug Store at Fortuna, Calif., was recently purchased by Paul E. Mudgett.

Clyde Hudson recently returned from overseas after enjoying over two years of service. At present he is with Hahman Drug Company, Santa Rosa.

J. A. Abreu of East Oakland has recently purchased a new Buick Six Touring Car.

Paul T. Hahman, of Santa Rosa, is the proud owner of a new Cadillac Eight. Who says druggists can't show class?

Roy A. Stauffer, with his wife and daughter, recently took a trip to Southern California.

B. J. Rosenthal of the Blue Bird Drug Company, San Mateo, is convalescing from a serious operation.

G. J. Cervelli recently received honorable discharge from the Army after serving ten months in the Letterman Hospital. He is with E. J. Perroni's Pharmacy, Octavia street, San Francisco.

K. B. Bowerman, the president-elect of the California Pharmaceutical

Association, accompanied by Mrs. Bowerman, D. R. Rees and Mrs. Rees, enjoyed a vacation in the Sierras. They traveled by automobile and had a very pleasant trip.

Our friend, Norman Guinn, recently had the unique experience of being held up in the D. R. Rees Pharmacy, Tenth avenue and Cabrillo street, San Francisco. One of the men asked for an article and while complying with the request, he found himself suddenly covered with a revolver. The other man opened the cash register and extracted approximately \$50.00 and escaped by automobile.

K. S. Hudson has purchased the W. R. Haigh drug store, Healdsburg.

Lengfeld's Pharmacy of San Francisco has leased a three story and basement building on the east side of Stockton street, near Geary. It is interesting to note the Lengfeld Pharmacy occupying this exact spot before the fire.

Engle's Pharmacy at Twelfth ave. and Geary street, was robbed on June 20th between 10 and 11 o'clock. The thieves removed a small safe containing about three hundred dollars.

S. Tyrrell, U. C. '20, is at Shumate's, corner of Masonic and Haight.

The Rossi Drug Company, of San Francisco, has opened its fourth store at Broadway and Kearny streets. The store will be managed by R. L. Puccinelli.

I. Beck, Golden Gate avenue and Fillmore street, has been enjoying a visit to the Yosemite.

A. A. Moore, owner of the Alta Drug Company, recently installed a

beautiful case devoted exclusively to candies.

Paul E. Mudgett sold his interest in the Morris & Loring Drug Company of Fallon, Nevada.

ENGAGEMENT.

Mr. Louis Garbarino, U. C. '18, and late of the Owl Drug Company, is engaged to be married soon to Miss Louise Biagini.

We know the young man very well and believe he is one of the coming pharmacists of San Francisco. The lady in question has a host of friends and is said to be a very attractive girl.

Frank W. Dessel, accompanied by his wife, is spending his vacation partly at the home of his parents, Visalia, and the balance of the time at Santa Cruz.

Justus E. Zimmerman, recently of Porterville, is now holding down a responsible position in Dessel's Pharmacy, corner of Ninth avenue and Irving street, San Francisco.

Irving Rodda is now associated with Fletcher's Drug Store, Sacramento.

Oscar Classen, Paso Robles, has recently purchased a 1919 Buick. Oscar is some hustler and believes in enjoying life.

Lyman Tibbitts is manager of the City Drug Store at Sonora, while the proprietor is taking a vacation.

F. J. McCarthy, of McCarthy's Pharmacy, San Francisco, is the owner of a new Elgin car.

F. B. Taylor, of the Bowman Drug Company, Oakland, spent a pleasant vacation at his home in the Feather River country.

Fred. A. Wilson has opened a store at 7301 East Fourteenth street, Oakland.

W. Pruess, Santa Maria, Calif., is the proud father of a baby girl. Congratulations.

Dealers are warned in a statement issued by Internal Revenue Collector Justus S. Wardell that proprietary stamps by means of which the tax on toilet and medicinal articles is collected must be cancelled when the article is sold. Recently there have been received by the Bureau numerous uncanceled stamps taken from taxable articles purchased at drug stores.

Regulations 51, relating to the collection of the tax on toilet and medicinal articles, provide that each stamp affixed to a taxable article must be cancelled in such manner as to prevent its further use. "If possible," the regulations state, "the stamp should be affixed to the outside of the package or container of the taxed commodity so that upon opening the same the stamp will be destroyed. The initial or name of the vendor, together with the date when the stamp was affixed or cancelled, must appear on the cancelled stamp."

This provision, Collector Wardell states, will be strictly enforced.

The penalty for making use of a stamp to denote the tax imposed without cancelling the stamp is a fine of not more than \$100.

FOR SALE—Live wire Rexall Drug Store. In a class by itself as a money maker. Will stand the most grilling investigation. Sales last year over \$21,000. Can be greatly increased with proper attention. Requires about \$10,000 cash to handle. Owners have other business. If interested write box 86 Portola, Cal.

"I am afraid to go near the water because I get so dizzy."

"That's all right if your head swims."

MISSOURI PHARMACISTS IN CONVENTION.

The forty-first annual convention of the Missouri Pharmaceutical Association was recently held at Excelsior Springs. About three hundred members and guests were present to enjoy the meeting. Commercial pharmacy received special attention. Price maintenance was endorsed and publications refusing mail order advertisements were approved. The Association is in a flourishing condition and maintains its own journal. The Association re-endorsed the pre-requisite and a special committee was appointed to draw up a new pharmacy law. Many interesting papers were read. The membership now is over eight hundred and a substantial cash balance indicates a prosperous State society.

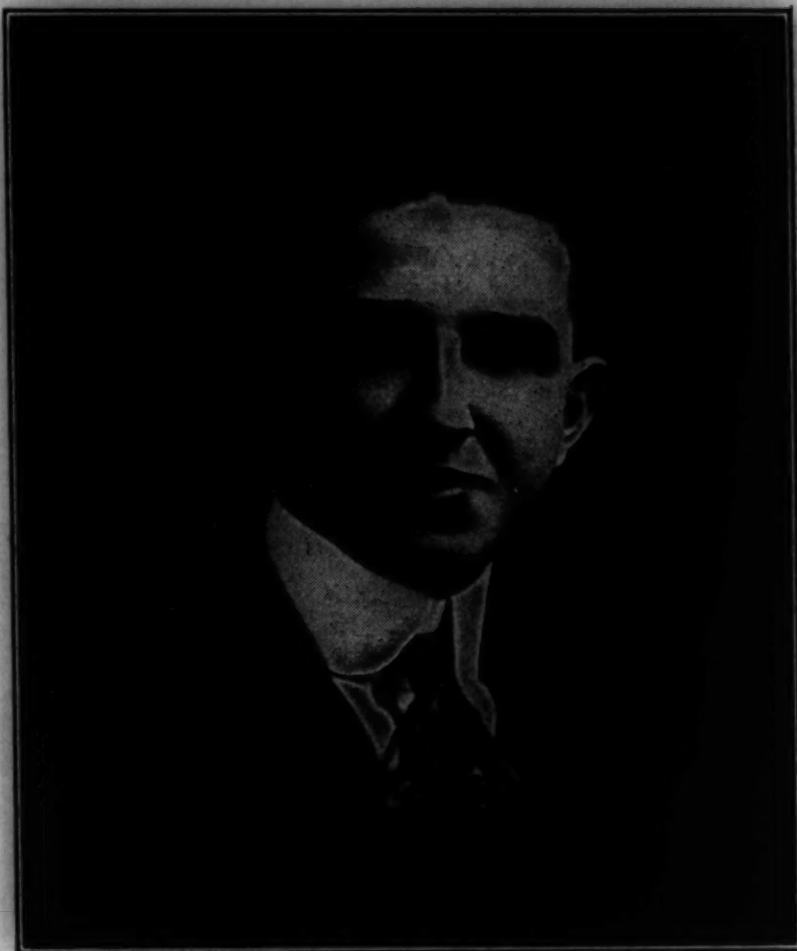
A. C. Smith was elected president for the ensuing year; T. J. Bolton, first vice-president, and Henry M. Whelpley of St. Louis, permanent secretary.

Dr. William Osler, perhaps the most widely known and celebrated physician of the English-speaking race, recently celebrated, hale and hearty, his seventieth birthday. Some years ago Dr. Osler came into possession of an unusual notoriety because of an alleged advocating of chloroforming a man who had reached sixty years of age. Of course, he did not exactly say or mean that, but the newspapers gave him full credit for it, nevertheless.

Dr. Osler is even to-day keen and active in his medical work. For many years he was at the head of famous medical schools in this country and Canada, but now occupies a similar position in one of England's most famous schools, named Oxford University.

Don't judge by the rags a man wears, the amount of money he has in his jeans.

System means everything in good business methods.



JUSTUS E. ZIMMERMAN

NEW INSTRUCTOR AT THE CALIFORNIA COLLEGE OF PHARMACY.

At the recent meeting of the Board of Directors at the California College of Pharmacy, Justus E. Zimmerman was recommended to the Board of Regents as Instructor in Botany, Pharmacognosy and Materia Medica. He will devote his full time in assisting Professor H. B. Carey, who has charge of this Department.

Justus E. Zimmerman was born in Olean, New York, in 1896. He came West with his parents in 1909 to make his home at Porterville, Calif., where he received his preliminary education, graduating from the High school in 1915. He became interested in Pharmacy in 1911, when he worked in one of the local drug stores. In 1916 he entered the California College of Pharmacy from which he was graduated with highest honors of his class in 1918. He was awarded the Directors Scholarship, but, unfortunately, he was unable to take advantage of it at the time.

Mr. Zimmerman is an unusual capable pharmacist and a man of fine character. Those who know him have no hesitancy in predicting his successful career as a teacher.

MEDAL FOR PHILADELPHIA COLLEGE OF PHARMACY ALUMNI.

The Philadelphia College of Pharmacy has been very actively identified with patriotic work since the beginning of the war. The College recently sent out a published list of the hundreds of alumni who joined the colors in many different capacities.

To commemorate this great work and show the students that the College has not forgotten them, the Philadelphia College of Pharmacy has presented an honor medal to all graduates and students of the institution who served in the war.

We herewith present a cut of this medal, which is unique and will doubtless be long cherished by all those who have the honor to receive it.



DEAN LaWALL RECEIVES HONORARY DEGREE.

The Honorary Degree of Doctor of Pharmacy was awarded to Dean Charles H. LaWall of the Philadelphia College of Pharmacy at the annual commencement of the University of Pittsburgh, held June 13 in the Soldiers' Memorial Hall.

The University celebrated its one hundredth anniversary at this commencement, and the Honorary Degree of Doctor of Pharmacy awarded to Dean LaWall was the first award of its kind since 1914.

Caswell A. Mayo, formerly president of the American Pharmaceutical Association, and one of the leading lights of Pharmacy in this country, has recently joined the Wm. S. Merrell Chemical Company. Mr. Mayo will have full charge of the publications of this well-known concern.

C. Parker, U. C. '18, has been serving his country in the U. S. Navy until recently when he received his honorable discharge.

H. R. Gaskins, ex-U. C. '18, who was one of the boys to volunteer his services to his country, recently returned from overseas. He reports having a very good time, but is also very glad to come back to California. Mr. Gaskins is contemplating entering the California College of Pharmacy this fall to complete his work.

BUSINESS DON'TS.

1. Don't fail to show a customer what he came in for before trying to sell him something else.
2. Don't detain a man who is in a hurry and who says so.
3. Don't boost up to the sky every article the customer lays his hand on. He will have more confidence in what you say, if, sometimes, you say: "I wouldn't take that one."
4. Don't use too many superlatives. Instead of saying this or that is the finest or the prettiest, or the latest, say once in a while: "What do you think of this?" Or, "Doesn't this strike you as being good-looking?"
5. Don't argue with the customer. You may get the better of him in an

DEPENDABLE ANAESTHETICS

CHLOROFORM

U. S. P.

Pure Potent Uniform

ETHER

U. S. P.

This product, manufactured by a perfected process, is of unsurpassed quality, and being limited to a **SPECIFIC GRAVITY RANGING FROM 0.7145 TO 0.7160 AT 25° C.** insures proper content of alcohol, conducive to uniform etherization.

Powers-Weightman-Rosengarten Co.

FOUNDED 1818

Manufacturing Chemists

PHILADELPHIA

New York

St. Louis

SPECIFY "P-W-R"

argument, but you will never get his money.

6. Don't ever question a customer's knowledge of merchandise. You will have much easier work to sell him if you make him feel that you think he knows all about it.

7. Don't knock competitors. Your customer will think all the more of you if you refrain from saying anything unkind.

8. Don't promise a customer anything that you are not absolutely sure you can fulfill.—Novelty News.

High prices seem to be world-wide. The daily wage of the farm laborer in Egypt has been advanced from twelve and a half cents to forty cents a day.

The Four Steps.

The first requirement for getting results as a salesman is to know yourself.

The second absolute essential is to know your goods.

The third necessary qualification is to know your customer.

And the fourth big punch is to have enough decision to stop selling and to close the deal.—The Silent Partner.

A ditch-digger works ten hours a day for \$2.50—that's labor.

A mechanic takes \$5.00 worth of material and makes it into watch springs worth \$50—that's skill.

A merchant takes an article worth 75 cents and sells it for a dollar—that's business.

There's a man in our town who takes a fifty-cent piece of canvas, paints a picture on it and makes it worth several hundred dollars—that's art.

Longfellow took a worthless sheet of paper, wrote a poem on it and made it worth thousands—that's genius.

Pierpont Morgan could write a few words on a piece of paper and make it worth a million—that's capital.

A woman can buy a hat for \$2.75 but prefers one that costs \$27—that's *!—?—Exchange.

THE BLESSINGS OF DEATH.

Have you ever considered what would happen if everything that is born on the earth were allowed to live and multiply unchecked for a few months or even days, and what providential things disease and death are to us after all?

Take, for example, the green-fly, the pest and often the despair of the gardener. It is a microscopic insect. It takes far more green-flies than there are people in the United Kingdom to turn the scale at a pound avoirdupois. Yet so prolific are they that the progeny of a solitary female, if all survived and bred, would in ten days outweigh all the people on the earth a thousand times.

So prolific, too, is the common or domestic fly that in a single season one industrious female could count her progeny to twenty millions, if all survived and followed her example of maternity. At the end of the fifth season her living descendants would be counted in thirty-seven figures, and the sky and the earth would be black with them.

Of a solitary pair of birds, under the same conditions of survival and breeding, the descendants would number in twenty years so many thousands of millions that they would blacken the sky over the whole of England.

A codfish lays at a time twice as many eggs as there are people in Scotland. If these eggs were all successfully hatched, and the resultant fish were to breed at the same rate, it is calculated that within five years the descendants of the solitary codfish would number many billions.

It is thus easy to see that in process of time—and no very long time, either—the progeny of a solitary fish could so fill and choke the seas of the earth that navigation would be impossible.

And the same is true, to a greater or less extent, of everything that is born on land or in the waters. If death and disease did not come to our aid the earth would soon be covered with a tangled riot of vegetation, in which there would be no room for man to

live. The seas would be a solid, heaving mass of fish, and no ray of sunshine would ever reach the earth through the dense pall of the things that fly.—London Answers.

MISSOURI STATE BOARD QUESTIONS.

Assistant Pharmacist.

PHARMACY.

1. Define: (a) Pharmacy; (b) Pharmacopoeia; (c) Dispensatory; (d) National Formulary.
2. What system of weights and measures are used in American pharmacy?
3. Name the various units of weights and measures of each system given above, and state their origin.
4. (a) What is the difference between a drop and a minim? (b) A cubic centimeter and a millimeter? (c) An Avoirdupois and Apothecaries' ounce? (d) An eighth of an ounce Avoirdupois and sixty grains? (e) A Troy pound and an Avoirdupois pound?
6. Define the following pharmaceutical operations: (a) Filtration; (b) Colation; (c) Decantation.
7. Explain also the following processes: (a) Infusion; (b) Decoction; (c) Percolation.
8. How may camphor be readily powdered? How soluble is camphor in water and alcohol?
9. (a) What is an emulsion? (b) How prepared?
10. (a) What is a mixture? (b) What is the composition of Chalk Mixture?
11. (a) Give the U. S. P. general formula for making infusions and decoctions; (b) What special caution is given?
12. (a) What is the composition of Dover's powder? Dose? (b) Why is it called Dover's powder?
13. (a) What is a solution? (b) What is a U. S. P. liquor? (c) How are solutions made?

SUMMER SUNDAES.

Place a No. 8 cone of ice cream in the center of an ice cream plate. Around the base put a ring of strawberries. Around this place a circle of banana slices. Over the cream pour a little strawberry syrup. Sprinkle with chopped walnuts.

Summer Sundae.

Put a banana in an oblong dish. On this put a No. 10 cone of vanilla ice cream and pour over it a ladle of fresh crushed strawberries. Top with whipped cream or a fresh strawberry marshmallow dressing and sprinkle with ground nutmeats.

Summer Beauty Sundae.

In a 4 inch glass fruit nappie or a champagne glass put a No. 8 gem spoon of fresh strawberry ice cream. In the center of the mound put some shredded cocoanut and top with a maraschino cherry. Make a ring around the cream with slices of banana.

Summer Expectation Sundae.

On a small platter put two No. 16 cones of vanilla ice cream. Over one pour a ladle of cantaloupe crushed fruit. Over the other a ladle of fresh crushed peaches and decorate with whipped cream. At each end of the platter put a nice ripe plum. This will be more attractive if the platter is decorated with lettuce leaves.

Summer Maid Sundae.

On an oblong dish put a No. 20 cone of vanilla ice cream and one of strawberry ice cream. Over one pour a ladle of Little Sister dressing. Over the other a ladle of raisin dressing. Top with whipped cream and two fresh strawberries.

Summer Sandwich Sundae.

Have a sponge cake on hand cut in slices same size as your brick ice cream and one-half inch thick. Place a slice of strawberry ice cream on a six-inch plate. On this place a slice of the cake and on this place a slice of vanilla ice cream, and pour over all a ladle of fresh crushed strawberries. When strawberries are out of season use peaches and peach ice cream.

Summer School Sundae.

Place a No. 10 cone of vanilla ice cream into a sundae cup, and pour over it a little chocolate syrup. Then sprinkle the cone with chopped nut meats and put a green cherry on one side of the cone and a red cherry on the other. Over this pour a teaspoonful of malted milk and top with a little whipped cream.

Sundae A L'escoffer.

Fill a parfait glass one-third full of lemon water ice cream. Fill the next third with whole fresh strawberries and pour grape juice over them. Fill the glass with lemon ice cream and top with a strawberry.

Sunflower Sundae.

Arrange a circle of mint leaves on a 5-inch plate, and place a slice of Hawaiian pineapple in the centre. On this put a No. 12 cone of chocolate ice cream. Cover this with chocolate marshmallow dressing, and sprinkle with chopped walnuts and top with a cherry.

Sunflower Sundae.

No. 2. Peel and divide into its natural sections a California navel orange. In the center of 6-inch plate place a No. 10 mound of chocolate ice cream, then arrange the orange sections around the edge of the plate so as to resemble the petals. Over the ice cream pour chocolate marshmallow dressing and sprinkle with chopped nutmeats. Put a green cherry between two of the slices of orange.

Sunflower Sundae.

No. 3. Put a No. 10 mound of peach ice cream into a champagne glass; make a circle of banana slices around the base, then add 4 red cherries, over all pour a ladle of whipped cream. Top with an orange section.

Sunkist Special Sundae.

On an oblong dish put a No. 16 cone of vanilla ice cream and one of orange water. (2 of vanilla may be used) over the ice pour a ladle of sliced orange fruit. Over the vanilla pour lemon mallow dressing. At each end of the dish put a section of orange. Top the cones with a couple of small lemon gum drops.

CLASSIFIED.

This Department is free to Druggists, Drug Clerks, Doctors, Dentists, Chemists, Veterinarians and Nurses. Make your wants known and we will do our best to see that you get results.

EXCHANGE—For a good paying Drug Store in a prosperous town, anywhere in California, country preferred, 50 by 140 ft. lot, in fine residential district of San Diego, or 160 acre ranch, uncultivated, with plenty of water, six miles west of Ramona. If interested, write to: W. F. Belcourt, Druggist, Angels Camp, Cal.

WANTED—To hear from owner of good drug store for sale. Send price and full particulars to D. F. Bush, Minneapolis, Minn.

SPECIAL ATTENTION—If you want to sell your drug store, or buy one in any State, or want any kind of position, or need any kind of an employee, or need a Doctor, Dentist or Veterinarian, write F. V. Kniest, R. P., Bee Bldg., Omaha, Nebr. Estab. 1904.

The F. A. Weck Drug Store Exchange, 501 Third avenue, San Francisco, submits the following:

DRUG STORE in thriving Oregon town, doing a good business. Owner about to retire on account of advanced age. Value of stock and fixtures, \$7,700, or inventory; would consider part cash and term payment for balance. F. A. Weck Drug Store Exchange.

DRUG STORE in Butte County, well established and doing good business, and very low expense. Full particulars to interested parties. F. A. Weck.

DRUG STORE in San Francisco in thickly residence district. Owner has outside business, reason for selling. Daily sales, \$22.50; rent, \$32.50. Price \$3750. F. A. Weck, 501 3rd Ave., San Francisco, Cal.

NEVADA COUNTY. Store doing large prescription business. Rexall and Eastman's agency. Good all the year business; summer and winter resorts. Price, \$5,500.

DRUG STORE for sale, San Jose, \$3000. Good location, clean stock, good business and small expenses.

SMALL DRUG STORE in San Jose doing fair business and improving. Owner in ill health and must retire. Stock and fixtures valued at \$1600.

DRUG STORE for sale, Sacramento, \$8000. Money-making business, well established and good location. Good opportunity for a live man with sufficient capital.

DRUG STORE for sale in Santa Cruz Co., \$2000. Old established drug store in one of the best towns in California. Good opportunity for active man. Owner wants to retire on account of old age.

LOCATION for a drug store in a thriving town, near San Francisco, located on the main street in a modern new brick building. Low rent and a lease can be obtained if desired. This is an exceptional opportunity for a live druggist wanting to open a new store or to move from some other location.

DRUG STORE, Eureka, Cal. In the center of the city; modern fixtures; doing good business; owner has other interests. Eureka is a fast-growing city of 2000 population; good business the whole year. Price, \$7,000.

DRUG STORE in Oregon town (county seat). Owner must sell on account of ill health. Will sacrifice stock, \$3500. This is an exceptional opportunity for an active man—only drug store in town, also fine residence at \$4000 optional, may consider clear real estate exchange.

DRUG STORE in San Jose, Cal. Clean stock, modern fixtures. Owner will sell at discount from inventory as other business requires his attention.

DRUG STORE in Sacramento County, good town; owner wants to retire on account of old age. Good opening for doctor-druggist. \$2500.

DRUG STORE for sale, San Francisco, \$4000. On prominent business corner, Richmond District; modern fixtures, clean stock, doing good business; owner wanting to leave State is the only reason for offering store for sale. This is an exceptionally good offer for any live druggist.

FOR SALE—Drug store at Larkspur, Marin County, for sale owing to death of owner, and widow must sell. Larkspur and vicinity has about five hundred population and good country trade. A popular summer resort. A splendid chance for a druggist or doctor druggist to build up a prosperous business. Modern fixtures and stock valued at \$2500; the store has been established about three years. Rent of store and six-room flat \$30 per month. The store will be sold at a sacrifice. If interested call on F. A. Weck, 501 3rd Ave., San Francisco, Cal. Make appointment to see the store. Any reasonable offer will be considered.

DRUG STORE WANTED—We have a client wanting to buy a good drug business in one of the bay towns. Business must be on a good paying basis, sufficient to satisfy the employment of a registered pharmacist and a boy. Good location, clean stock and modern fixtures. State particulars. Address, F. A. Weck, 501 3rd Ave., San Francisco, Cal.

FOR SALE—Drug store Solano county; sixty miles from San Francisco; doing good cash business and a large prescription file; A. D. S. and other agencies; new stock and fixtures; price, \$5000. For particulars address, F. A. Weck, 501 3rd Ave., San Francisco, Cal.

DRUG STORE, Angels Camp, one of the best equipped drug stores in the State. This drug store is offered at a bargain in part or as a whole. Stock or fixtures may be bought separately. Anyone contemplating opening a drug store would find it an advantage to investigate this offer. The fixtures are in sections and could be easily packed and shipped to any other location at very much less than new and cheap fixtures could be installed at. If interested, communicate with F. A. Weck, 501 3rd Ave., San Francisco, Cal.

DRUG STORE—One of the best in the city of Fresno is offered for sale on account of the draft. Stock and fixtures about \$9000, will make some discount on inventory of stock. Modern fixtures; clean stock; A. D. S. agency. For particulars apply, F. A. Weck, 501 3rd Ave., San Francisco, Cal.

FOR SALE—Drug store in Oakland residence district doing \$25 to \$30 per day. Owner expects to enter the Medical Department of the U. S. Army. Will sell at inventory, about \$2500; stock and fixtures new; established about one year. For particulars address, F. A. Weck, 501 3rd Ave., San Francisco, Cal.

DRUG STORE out of San Francisco. Invoice price about \$4000; daily sales, \$25 to \$30; good agencies and growing business. For particulars see F. A. Weck, 501 3rd Ave., San Francisco, Cal.

If interested in the above list of business opportunities, address F. A. Weck Drug Store Exchange, 501 Third avenue, San Francisco, Cal.

THE JAMES H. BARRY COMPANY

Incorporated

THE STAR PRESS

Printers and
Publishers

Book Binding,

Designing,

Photo Engraving

We print.....

The Pacific Pharmacist

1122-1124 Mission Street, San Francisco

Phone Park 6380

FOR SALE

Twelve acres of very rich orchard land, two miles from Hayward and five miles from Oakland, Cal.

Seven acres in Belladonna; \$1000 per acre, including Belladonna crop.

ALBERT SCHNEIDER,
1738 Walnut St., Berkeley, Cal.

Walters Surgical Co.

441 SUTTER STREET

Between Powell and Stockton Streets

Surgical Instruments
Hospital Furniture



Elastic Hosiery
Abdominal Supporters
and Trusses



Laboratory Supplies

Willie and Jack are two youngsters who are pugilistically inclined. "Aw," said Willie, "you're afraid to fight; that's all it is."

"Naw, I'm not," protested Jack, "but if I fight my ma'll find it out and lick me."

"How'll she find it out, eh?"

"She'll see the doctor goin' to your house."

She—If a girl told you you could kiss her on either cheek, what would you do?

He—I'd hesitate a long while between them.—Punch Bowl.

"Why the noise?"

"The barber is shaving himself."

"But why all the chatter?"

"He is trying to persuade himself to have a shampoo."—Stray Stories.

More true today than ever, "time is money."



WALRUS
White-Iceless
Soda Fountains

**Are in Evidence in Hundreds of America's Leading
Stores, Clubs and Hotels**

The wonderful efficiency of the Walrus Soda Fountain
has been fully tested in most every climate and altitude
throughout the whole world.

It is the Practical "WHITE" SODA FOUNTAIN.



Representatives in all Principal Cities.

Capitalize Mulford Quality

In Your Ointment and Suppository Business

Mulford Ointments

Embody every desirable quality for medicinal use—accuracy, smoothness, proper consistency, permanency, convenience—and are offered in many combinations and formulæ.

All ingredients are tested for strength and purity.

Materials are carefully selected, not only for quality, but also with regard to climatic conditions, rapidity of absorption, etc.

By use of special machinery and utmost care, intimate mixture of ingredients is insured.

Fineness of subdivision and freedom from irritating particles is determined by microscopical examination.

Ointments so prepared and then filled into suitable and convenient containers naturally reach the market in perfect physical condition and give the utmost satisfaction to the consumer.

The Mulford line of **Ophthalmic Ointments** deserves special mention, in this connection, and enjoys a very wide sale.

Mulford Glycerin Suppositories

You should sell Mulford Glycerin Suppositories because they are

Made from tested ingredients.

Transparent (glycerin and base perfectly combined).

Colorless (no iron impurities).

Very pliable (easy to insert and not readily broken).

Free from irritating properties and impurities.

93% of Glycerin in perfect combination.

Supplied in proper sizes for adults and infants.

In bottles containing 6 and 12, one dozen bottles in a box.

Attractive Booklet for Physicians, with Druggist's
Imprint, Supplied Free with every Stock Order

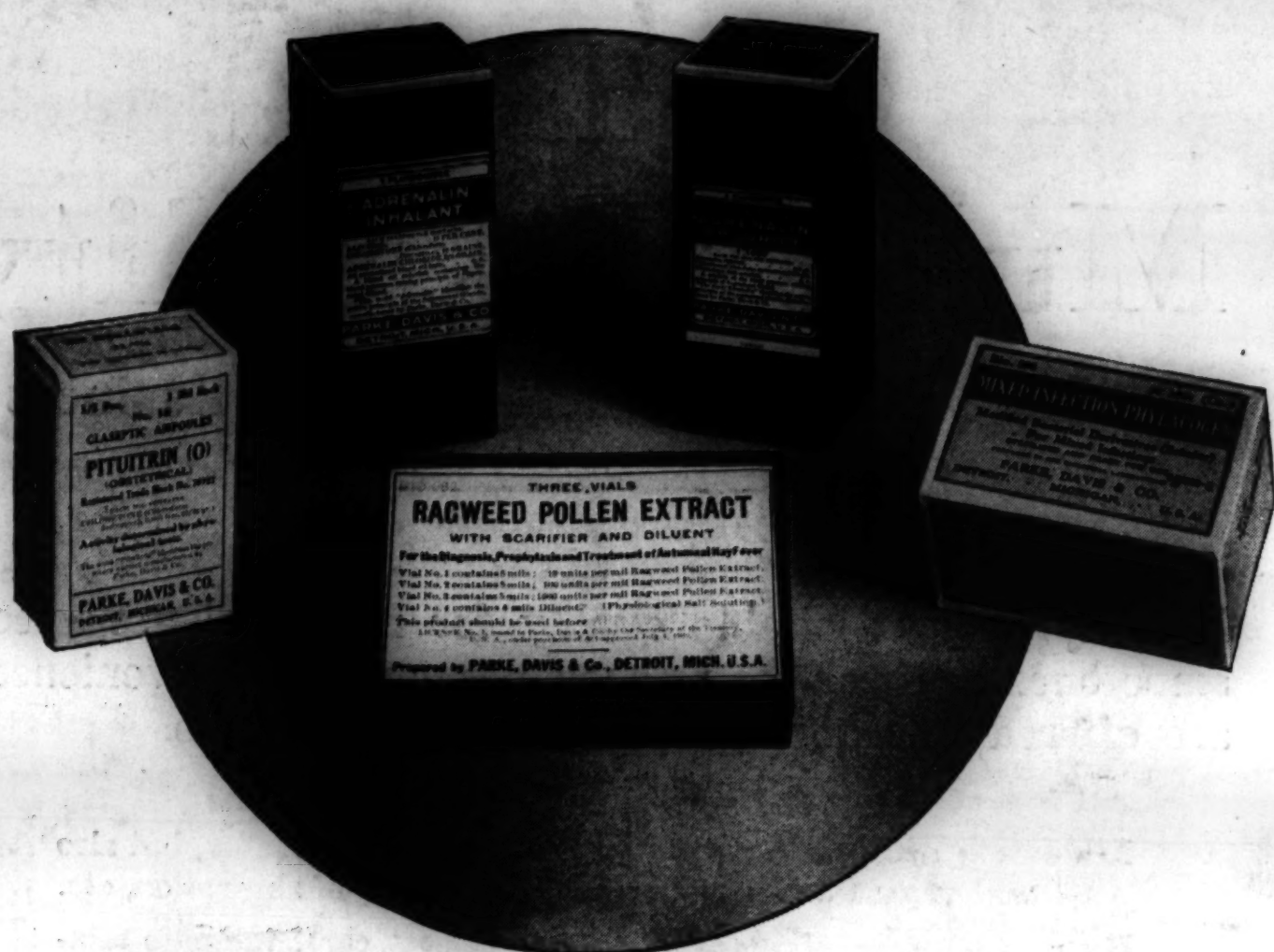


H. K. MULFORD COMPANY

Manufacturing and Biological Chemists

Philadelphia, U. S. A.

39631



For Hay Fever

THESE staple products are being advertised in the leading medical journals of the United States. You will soon have calls for them. Be prepared to meet the demand.

Adrenalin Chloride Solution: For spraying the nose and throat (after dilution with four to five times its volume of physiologic salt solution).
Supplied in ounce bottles, one in a carton.

Adrenalin Inhalant: For spraying the nose and throat (full strength or diluted with three to four times its volume of olive oil).
Supplied in ounce bottles, one in a carton.

Pituitrin O: For spraying the nose and throat (after dilution with four to five times its volume of physiologic salt solution).
Supplied in ounce bottles, one in a carton.

Mixed Infection Phylacogen: For hypodermic or intravenous injection.
Bio. 595. In 10-mil (10-Cc.) bulbs, one in a package.
Bio. 597. In 1-mil (1-Cc.) bulbs, five in a package.

Ragweed Pollen Extract: For prophylaxis and treatment. (Administered hypodermically.)
Bio. 680. Five tubes, with scarifying needle, for diagnosis.
Bio. 682. Four 5-mil (5-Cc.) vials (No. 1, 10 units; No. 2, 100 units, and No. 3, 1000 units per mil; No. 4, diluent).
Bio. 681. Number 3 vial, 5 mils (5 Cc.), 1000 units per mil.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.